BLUE JAY

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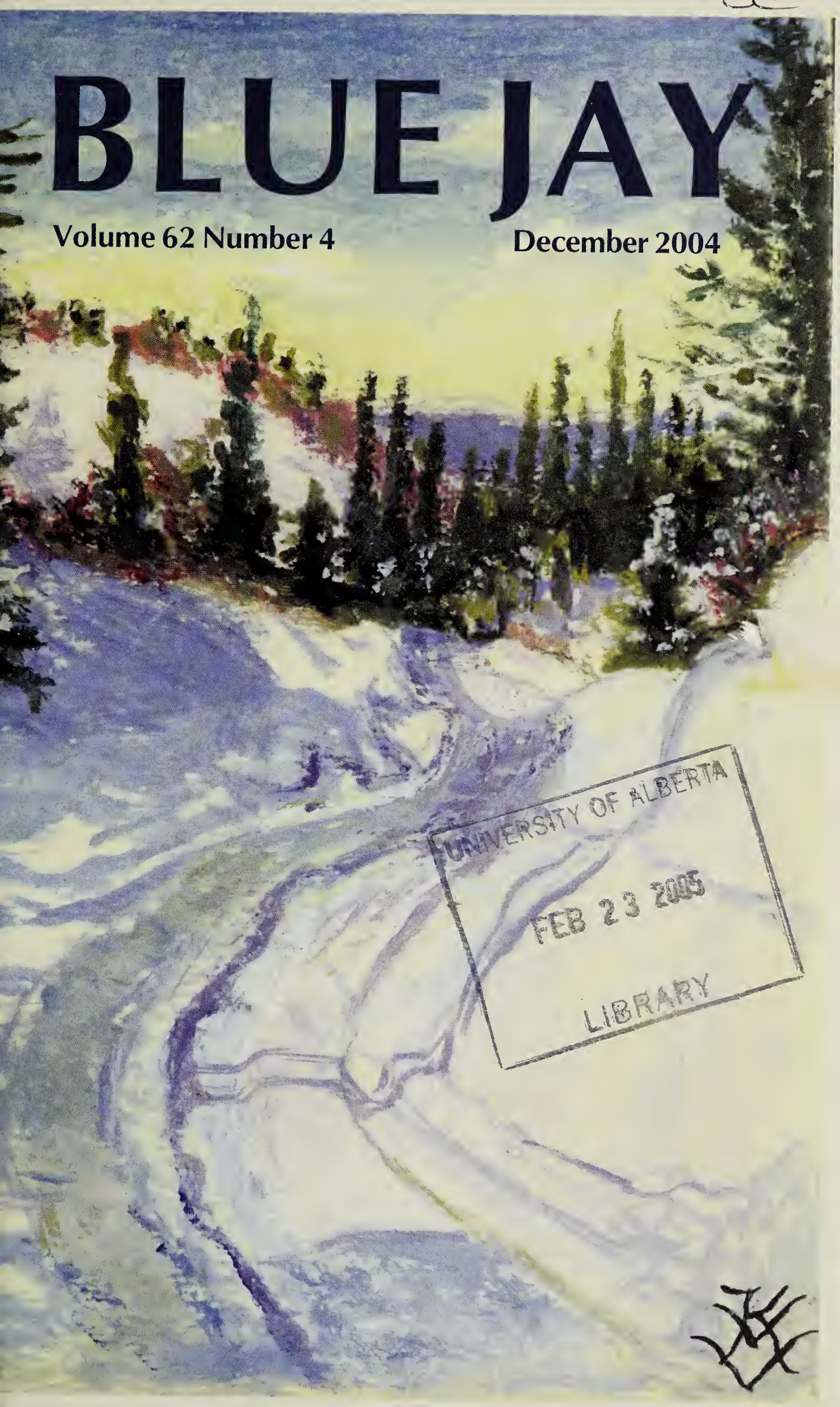

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COVERS: **Front** - Road to Greenwater Lake, water colour by Kathleen Van Blaricom, 1940
Back - Porcupine by Gary B. Green

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NOTEWORTHY MANITOBA BIRD SPECIMENS IN THE STEWART-HAY MEMORIAL MUSEUM AND UNIVERSITY OF MANITOBA ZOOLOGY MUSEUM

SPENCER G. SEALY, Department of Zoology, University of Manitoba, Winnipeg, MB R3T 2N2

Introduction

The Stewart-Hay Memorial Museum (SHMM) in the Department of Zoology, University of Manitoba, houses a large collection of specimens of fossil and extant invertebrates and vertebrates. The specimens were collected over many years by several people and were assembled through the mid-1950s in part by Ronald K. Stewart-Hay (1909-1962), who lectured in the Department of Zoology between 1941 and 1962. The origins of most specimens, however, are obscure and lack information on when and where they were collected. Those dates and places of collection that have been recorded must be taken at face value because the information, in most cases, cannot be confirmed. Among those specimens are approximately 600 mounted birds, many of which were collected or assembled in the late 1890s and early 1900s by George E. Atkinson, a taxidermist and naturalist from Portage la Prairie, Manitoba, who died in 1913. Specimens of the Barn Owl and Ivory Gull in the Stewart-Hay Museum, acquired after Atkinson's death, are the first confirmed records of these species for Manitoba and are known to ornithologists.[2,3,5,11,23,32,44,45]

In addition to the mounted specimens in the Stewart-Hay collection, there is a collection of study skins of birds assembled more recently to augment the collections of fish, amphibians, reptiles, and mammals that form the basis of courses in biodiversity at the University of Manitoba. I arrived at the University of Manitoba in 1972 and began building up a collection of study skins of birds for teaching and research, most of which were salvaged from various sources. Currently, there are about 3,100 specimens catalogued in this collection, housed in the University of Manitoba Zoology Museum (UMZM).

Here I present information on selected specimens in both of these collections, representing species that are vagrants, occur irregularly in Manitoba, or are important in other ways. Many of these specimens reveal the kinds of information that can be derived from collections and, hence, attest to the importance of continuing to preserve specimens of birds, and other animals. Details are provided for these specimens and, for the record, sightings of some of these species made while conducting field research in southern Manitoba, primarily at Delta Marsh, centered at the Delta Marsh Field Station (University of Manitoba), are included. Banding and sight records obtained by the Delta Marsh Bird Observatory (DMBO) also supplement some of the specimen records, and reference to specimens housed in The Manitoba Museum (MM) round out one species account. The information presented here extends our

knowledge of these species in Manitoba, but their status in the province has been summarized in the recently published book, *The Birds of Manitoba*.[23]

Annotated List of Species

Least Bittern

The Manitoba Wildlife Rehabilitation Centre at Glenlea (all localities mentioned in the text are in Manitoba, unless stated otherwise) received a Least Bittern (UMZM 2854) found injured in Winnipeg in late summer 2003. The date accompanying the specimen was 7 September, but there is uncertainty whether the bird was actually found on that day or earlier, possibly even in late August (A. Galloway pers. comm.). Both legs had been broken at the distal ends of the tibiotarsi, which suggests it had collided with an overhead wire. It was emaciated and soon died. That it was a juvenile, with down on the crown and rectrices, suggests local nesting, but it could

***Figure 1. Adult Merlins from southern Manitoba: the bird on the extreme left (UMZM 2836, female) and the bird to its right (UMZM 2825, male) show characteristics of* F. c. columbarius*, whereas the bird on the extreme right (UMZM 2829, female) and the bird to its left (UMZM 2830, male) show characteristics of* F. c. richardsonii.**

have flown from a distant nesting site, even from outside Manitoba. There are confirmed nesting records for the province and other specimens have been preserved.[23]

Percy N. Hébert, Sealy, and students in an ornithology class flushed a Least Bittern from cattails at Oak Hammock Marsh, near Stonewall, on 3 October 1988. On 25 May 1992, Paula Grieef and Sealy saw one in reeds at Delta Marsh, on the property of the Delta Waterfowl Foundation. These sightings add to the growing number of Least Bittern records in Manitoba.[23]

Great Egret

The Great Egret increased in numbers and expanded its range across the American midwest after the slaughter of birds for their feathers was stopped in the early 20th century. Although there is a specimen taken in Manitoba in the late 19th century, the species only began to be recorded regularly in the province during the 1950s.[23] The second specimen for the province is an emaciated, immature female (UMZM 3088) brought to the Manitoba Wildlife Rehabilitation Centre on 1 September 2004 where it soon died.

Surf Scoter

The Stewart-Hay Memorial Museum catalogue lists two mounted Surf Scoters, but I located only one (SHMM 558), which, according to the catalogue, was a female taken at Clandeboye Bay, Delta Marsh. No date was given but 17 November 1928 was penciled on the bottom of the stand on which the bird was mounted, as were its age and sex (immature male) and the locality. (Coincidently, or in error, this is the same date and locality given for the mounted specimen of the Black Scoter [SHMM 560] in the next account.) This specimen is on display with other species of ducks from Manitoba. The missing specimen (SHMM 559) allegedly was a female taken on 1 October 1926 at Netley Lake. J. Nelson took an immature male Surf Scoter at Delta Marsh on 11 November 1984 that was donated to the UMZM collection, but it was destroyed when a freezer failed.

Black Scoter

A mounted, adult female Black Scoter (SHMM 560) was taken at Clandeboye Bay on Delta Marsh on 17 November 1928. Although the identity of this species was confirmed, the date and collecting locality were not (see above). D.A. Sexton shot two, one an immature male (UMZM 2418), from a flock at Delta Marsh, on Simpson Bay, on 13 October 1982. This is the rarest of the three scoters in Manitoba and especially so in southern Manitoba.[23]

Merlin

After a decline in numbers over much of North America between 1950 and the early 1970s, Merlins have increased dramatically in Manitoba, moving into the cities of Brandon in 1977 and Winnipeg in the 1980s.[23] By the late 1980s, coincidental with this increase, specimens started to trickle in to the University of Manitoba Zoology Museum. In 1989, an adult female Merlin (UMZM 2836) was found dead on 17 April in Winnipeg and an adult male (UMZM 2832) was taken near Brandon on 1 October. The female had the wider black stripes on the crown and showed the darker plumage characteristic of the "Taiga" Merlin (*Falco columbarius columbarius*), whereas the male had thin stripes on the crown and was paler, one of the characteristics of the "Prairie" Merlin (*F. c. richardsonii*).[12,42,49] Seventeen additional Merlins were salvaged between 1990 and 2003 and many others without data were discarded. Preservation of at least a representation of these specimens will add to our knowledge of mortality and provide potential information on sex and age of wintering individuals, plumages, and timing of molts and other events in the annual cycle.

At least two of the three subspecies of Merlin currently recognized in North America[42] are represented in the collection (Fig. 1). In addition to the specimen of the Taiga Merlin mentioned above, taken during

Figure 2. Hybrid Greater Prairie-Chicken x Sharp-tailed Grouse (SHMM 625), University of Manitoba.

the spring migration, four other specimens showing the characteristics of this subspecies were taken in southern Manitoba apparently during spring (UMZM 2825, 2855) and fall (UMZM 2835, 2837) migrations. The specimens of adult Prairie Merlins were taken in all seasons, which reflects the habit of at least some individuals of this subspecies remaining in southern Manitoba in winter.[23] The other specimens that matched descriptions of Prairie Merlins were juveniles.

As a cautionary note, Hamilton and Schmitt (2000, p. 64) emphasized that Merlin plumages are variable, "perhaps to the point where no migrating or wintering individual can be identified to subspecies with utter confidence."[12] Recently, with the advent of the tools of molecular genetics, the value of subspecies and even their validity have been seriously questioned.[52]

Greater Prairie-Chicken

Houston documented the spread and subsequent disappearance of the Greater Prairie-Chicken on the Canadian prairies and adjacent areas. Many specimens were taken in this region, including Manitoba.[14] There are four mounted specimens in the Stewart-Hay Memorial Museum (SHMM 587, 624, 626, 628) and one egg alleged to be from this species (SHMM 627), but it is not known where the specimens were taken. There also is a specimen of a hybrid Greater Prairie-Chicken x Sharp-tailed Grouse (SHMM 625, Fig. 2) but it, too, lacks data. Three specimens of hybrids from Manitoba are preserved in The Manitoba Museum (MM 1.2-2188A, 1.2-2188B, 1.2-2757). Hybridization between Sharp-tailed Grouse and Greater Prairie-Chickens has been

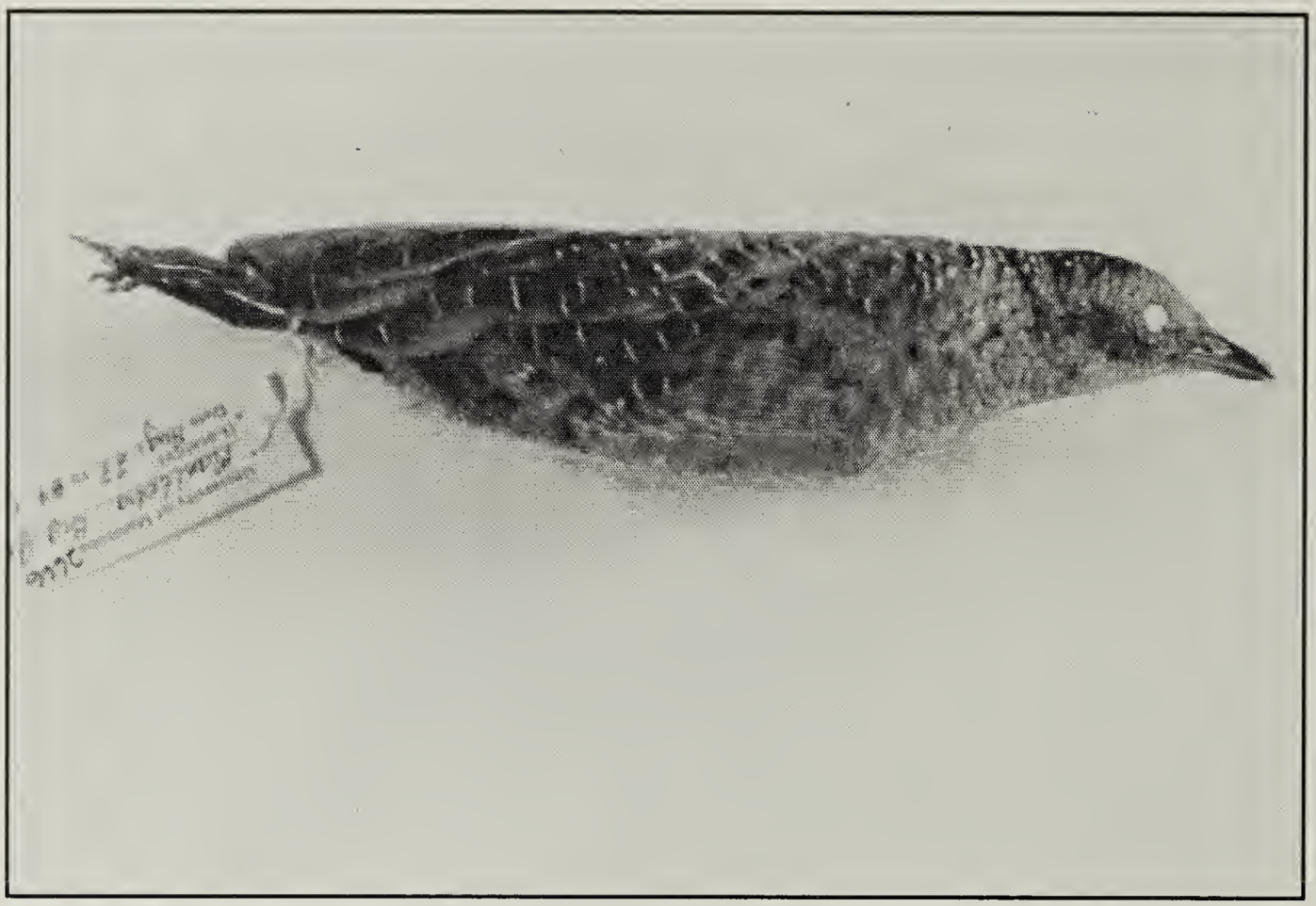

Figure 3. Yellow Rail (UMZM 2666), Big Grass Marsh, Manitoba, 27 August 1989.

recorded frequently and it may have contributed to the decline of the latter species.[14]

A small-scale attempt to re-introduce Greater Prairie-Chickens from Minnesota into southern Manitoba in the early 1970s failed.[27] Two females slated for this release died in captivity in November 1974 (R. B. Oetting, pers. comm.) and were preserved (UMZM 1342, 1343).

Yellow Rail

An adult male Yellow Rail (UMZM 2666), with slightly regressed testes, was among several ducks and other water birds that succumbed to botulism on Big Grass Marsh, west of Lake Manitoba, in 1989. The rail was salvaged on 27 August, relatively late in the outbreak (R.W. Nero, pers. comm.) and apparently is the only specimen (Fig. 3) from southern Manitoba, the other nine having been taken near Hudson Bay and deposited in several museums. The condition of some of the specimens from Hudson Bay suggests nesting (four males with "testes greatly enlarged" on 28 July 1937[10] and a female with a large brood patch on 21 July 1964,[15]) but the only confirmed nesting records in Manitoba are from the Douglas Marsh just east of Brandon.[17]

Whooping Crane

A mounted adult of the endangered Whooping Crane (SHMM 672) is on display (Fig. 4) in the Stewart-Hay Memorial Museum; the date and locality of collection are not known.

Piping Plover

From 1975 through 1978, a few pairs of Piping Plover nested on the graveled surface of the west dike of the Portage Diversion, which diverts water in some years from the Assiniboine River into Lake Manitoba, shunting it through Delta Marsh. On 7 June 1975, my attention was drawn to the presence of nesting Piping Plovers at this site when I discovered a road-killed female (UMZM 1392) on the dike. Its ovary revealed that the first egg of a clutch had been laid. Subsequently, on 9 June 1975, a pair with a nest and three eggs was found; a second pair was observed on the dike that

year but no nest was located. By mid-June the dike had been graded and the nest(s) destroyed. Single nests containing three eggs were found on the same stretch of dike on 20 June 1976, 28 May 1977, and 29 May 1978 and another pair was present in 1977 but no nest was found. These nests also failed, but renesting in 1976 is suggested as J.P. Goossen found a freshly damaged egg containing a nearly hatched embryo (UMZM 2861) on 22 July. Piping Plovers had not been observed on the dike in 1973 and 1974 and I have not seen them there since.

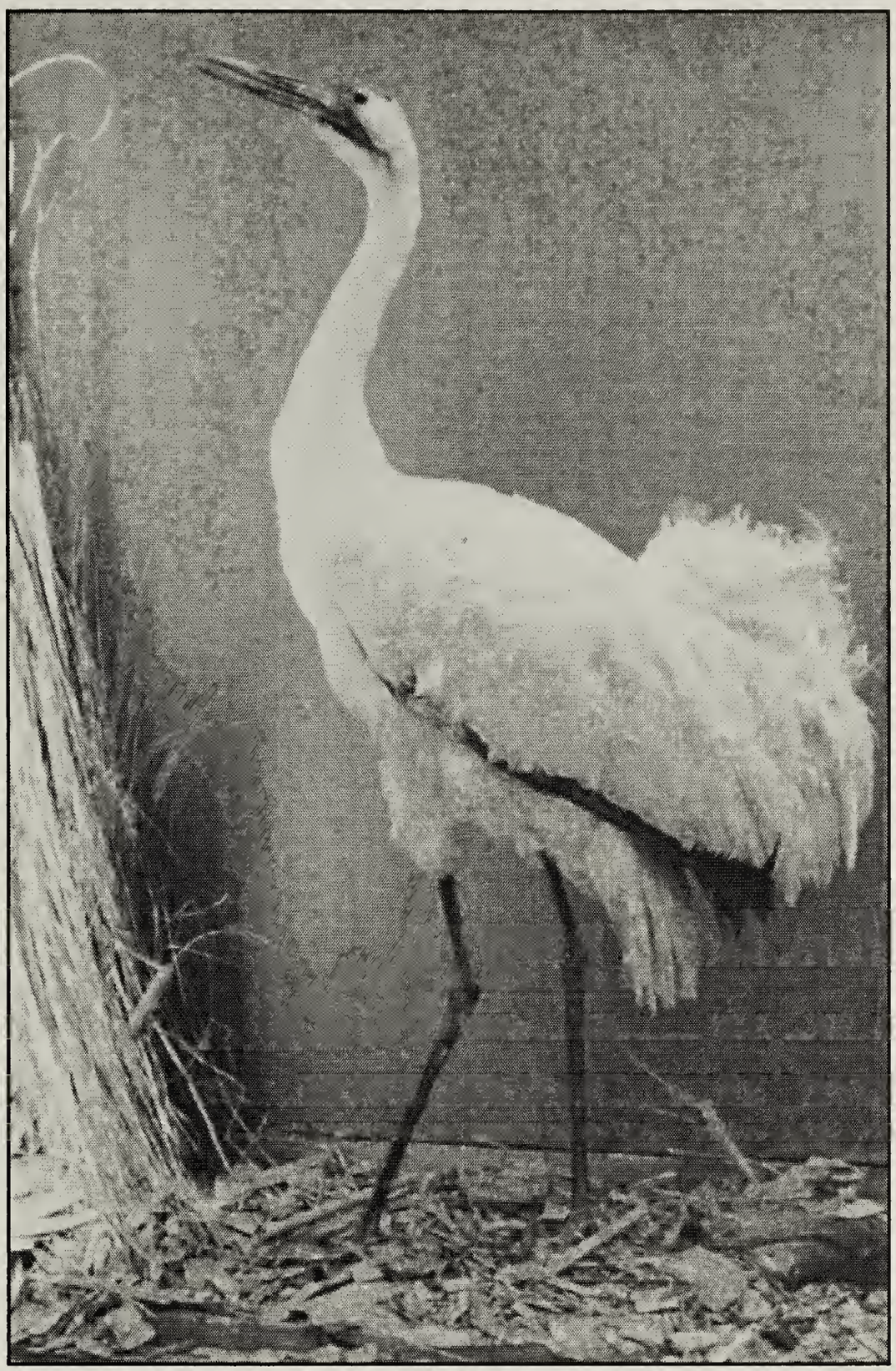

Figure 4. Whooping Crane in the Stewart-Hay Memorial Museum (SHMM 672), University of Manitoba.

There are two other Piping Plover specimens in the Stewart-Hay Memorial Museum: an adult male (labeled a female, SHMM 33) and an unsexed juvenile (SHMM 34), both without dates and collecting localities.

Short-billed and Long-billed dowitchers

These difficult-to-identify species are included in this list because the identities of four of the five specimens of dowitchers housed in the UMZM were confirmed in August 1975 by Frank A. Pitelka (who quantified geographic variation and revised the taxonomy of the dowitcher genus *Limnodromus*[34]). The Short-billed Dowitchers are UMZM 1479, 6 km northwest of Oakland, 10 August 1974; UMZM 1480 and 1481, 16 km southwest of Battleford, Saskatchewan, 30 August and 3 September 1973, respectively. The Long-billed Dowitchers (identity of 1974 specimen

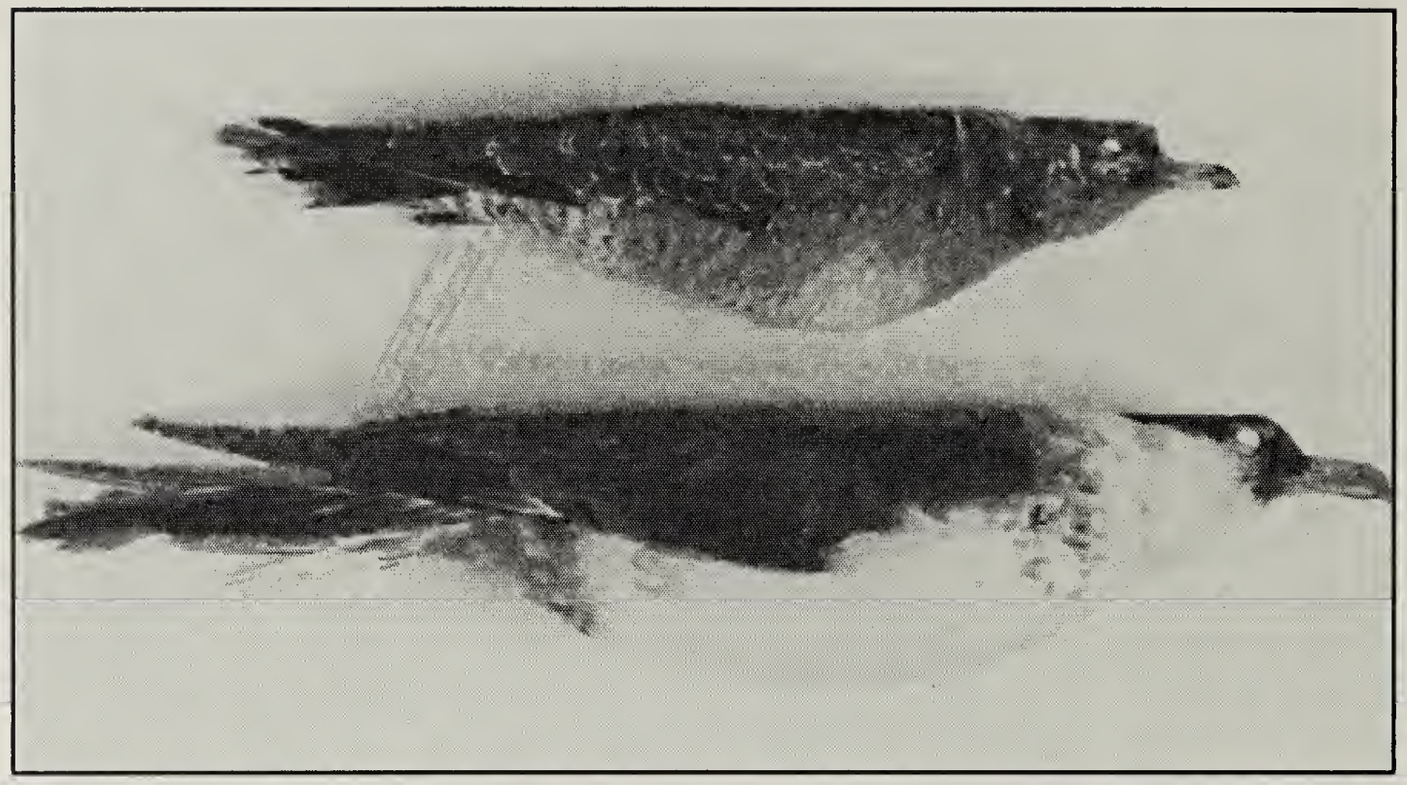

Figure 5. Above, juvenile Parasitic Jaeger (UMZM 3083), Moose Lake Provincial Park, Manitoba, 26 August 2000; below, Pomarine Jaeger (UMZM 2853), Lake Manitoba, 20 June 1992.

was not confirmed by Pitelka because it had not yet been prepared as a specimen) are UMZM 1478 and 1477, both collected at Delta Marsh, 26 July 1973 and 24 May 1974, respectively.

Parasitic Jaeger

There are more than 25 records of the Parasitic Jaeger from southern Manitoba,[23,46] but few specimens. A camper found a weakened juvenile (UMZM 3083, Fig. 5, top) near the Birch Lake garbage container in Moose Lake Provincial Park near Lake-of-the-Woods on 26 August 2000. Park staff readied it for transport but it died before it could be moved (K. De Smet, pers. comm.). The bird ended up at Manitoba Conservation and was examined by G. Graham, R. Jones, and K. De Smet. The other specimen of a Parasitic Jaeger, an egg-laying female (UMZM 1047), was found dead by Dale Caswell at Cape Churchill in "spring" 1976.

Pomarine Jaeger

This is the rarest of the jaegers in southern Manitoba, with only three records, two of them from the fall.[23,46] The only spring record is an adult male (UMZM 2853, Fig. 5, bottom) found dead by Glen and Robin McMaster on the southern shore of Lake Manitoba at the Delta Marsh Field Station on 20 June 1992.

Black-legged Kittiwake

A first-year, female Black-legged Kittiwake (UMZM 2852) was found dead on a road at the Pine Falls Generating Station near Powerview on 16 November 1996. Details of the discovery and a photograph were published.[47] The bird's age and the date of its occurrence coincide with the bulk of records of this species from the Prairie Provinces.[41,47]

Ivory Gull

The Ivory Gull was added to the list of Manitoba birds on the basis of an unsexed specimen (SHMM 80, Fig. 6) collected near Woodlands in 1915. The date 22 December 1915 is penciled on the label attached to the stand on which the bird is mounted, although the date of collection has been given by others as 27 December 1915.[3,4,19,23,44] On 15 May 1917, P.A. Taverner (p. 140) examined this specimen in E.W. Darbey's taxidermy establishment in Winnipeg and noted aspects of the bird's plumage, which revealed the bird was in its first year: "...face and

Figure 6. Subadult Ivory Gull (SHMM 80), Woodlands, Manitoba, 22 December 1915.

forehead flecked unevenly with light smoky gray, with remains of terminal tail band, and a few flecks on tertiaries, bend of wing, and lesser coverts." Some of these characteristics, for example, the once-black mottling on the face, spots on the neck and crown, and black spots and white borders of the primaries are evident from the photograph (Fig. 6) and jibe with the detailed description and photograph of a first-year bird, the first Ivory Gull recorded in California.[51] Two additional specimens have been taken inland in Manitoba: an adult female (MM 1.2-941) shot at Egg Lake, near The Pas, on 11 December 1926, and another specimen (possibly MM 3.6-370 but lacking data) shot at Nelson House on 4 December 1930. Several unconfirmed sightings, principally from the Churchill area, have been reported since the first specimen was collected.[23]

The specimen collected in 1915 is the first confirmed occurrence of the Ivory Gull in Manitoba, but another specimen may have been taken much earlier: a specimen from "Hudson's Bay,"[15,23,24] which I have not been able to track down. Swainson and Richardson[43] referred to an immature Ivory Gull in the British Museum (Natural History) that was "killed at Hudson's Bay." Correspondence with Graham Cowles (*in litt.*, 27 April 1987) of the Sub-Department of Ornithology, British Museum (Natural History) at Tring, England, revealed that no skins of the Ivory Gull in that collection give Hudson Bay as a locality on the label. Indeed, there is no evidence that the specimen Richardson probably collected was ever at the British Museum and at the beginning of the book these authors noted that their specimens from North America had been sent to several museums and universities in Europe.

Black Guillemot

The third Black Guillemot recorded at

Churchill in winter was found alive (after being dropped by a Common Raven) on 4 January 1991. It was transported by air to Winnipeg, cared for by staff of the Manitoba Wildlife Rehabilitation Organization, and taken to the Assiniboine Park Zoo on 9 January,[29] where it died and was turned over to the museum (UMZM 2858, unsexed juvenile). A photograph of this bird taken before it died has been published.[29]

Yellow-billed Cuckoo

I salvaged a window-killed, adult male Yellow-billed Cuckoo (UMZM 2387) on the University of Manitoba Fort Garry campus on 3 July 1982. A statistical comparison of the measurements of this specimen and those of individuals in western and eastern populations indicate that it is referable to the eastern subspecies *Coccyzus americanus americanus*.[9,35] It is a vagrant in Manitoba, although there are a few other specimens, several sight records, and one confirmed nesting in the province.[23]

Barn Owl

The Barn Owl was added to the list of birds of Manitoba on the basis of an unsexed specimen (SHMM 339) shot at Ste. Anne's on 6 November 1912. The well-prepared mount (Fig. 7) originally was in the collection of taxidermist, E.W. Darbey.[5,6] No other details are available concerning the collection of this specimen. It was more than one year old, judged by the subtle differences in wear of the primaries[36] and the notched serrations on the flange of the talon on the middle toe.[16]

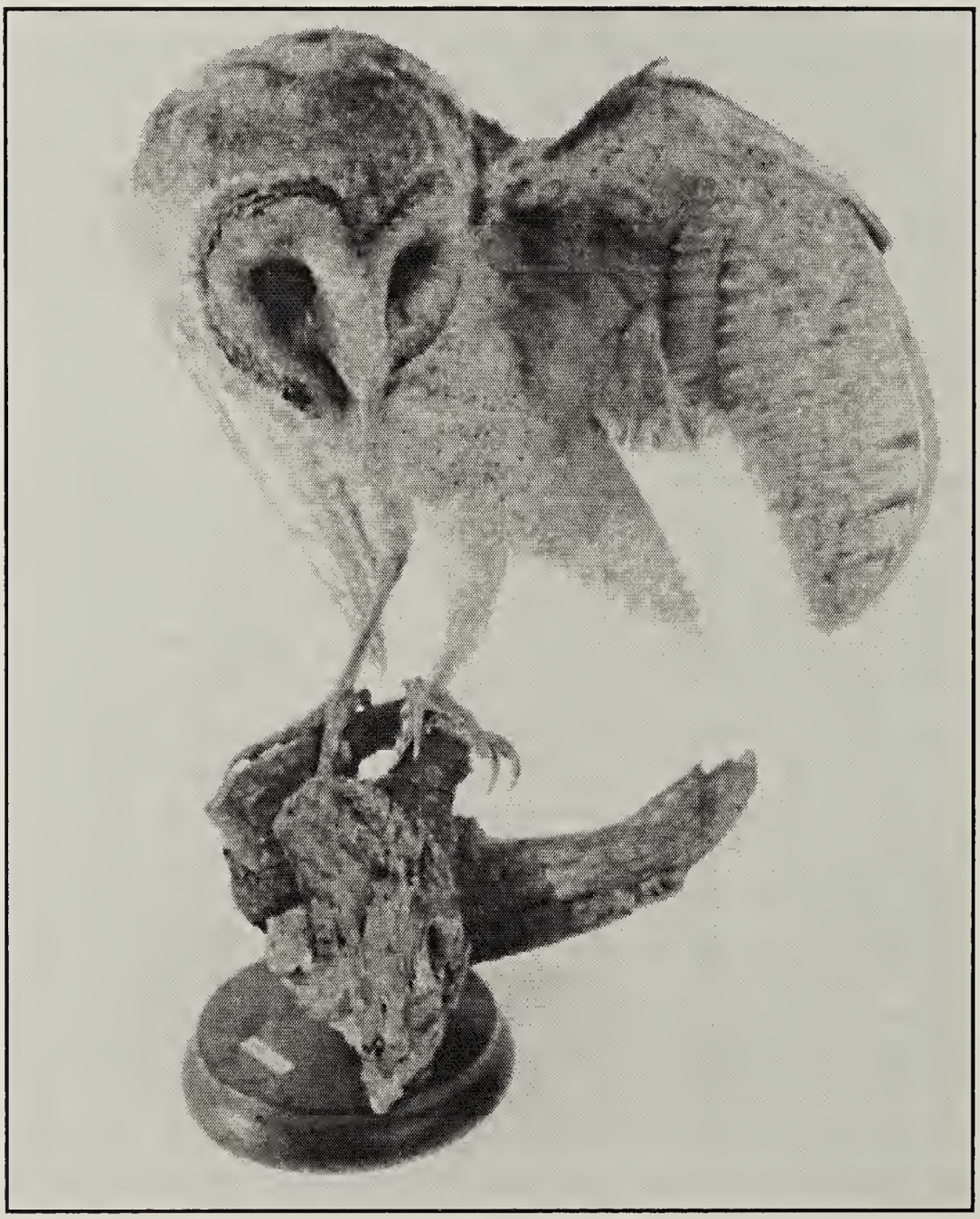

Figure 7. Barn Owl (SHMM 339), Ste. Anne's, Manitoba, 6 November 1912.

Other Barn Owl specimens from Manitoba have been documented, as well as several sight records and a recent pair that laid a clutch of eight eggs in the attic of a farmhouse near Springstein, about 10 km west of Winnipeg.[30,32]

On 9 July 1994, R.W. Nero collected three of the seven unhatched eggs (UMZM 2860) that remained in this clutch. These measured 45.9 x 32.0 mm, 47.9 x 33.8 mm and 52.7 x 32.3 mm.

Another specimen of the Barn Owl came to light in the mid-1990s, under unusual circumstances. On 13 May 1995, R. Wheeldon and A. Benoit discovered the remains of a Barn Owl (UMZM 2763)—one wing, a tail and two feet (Fig. 8)—at the base of a dead tree at the interface between woodland and meadow, in La Barrière Park. The remains were eventually turned over to R. W. Nero, whose notes are catalogued with the specimen and from which I have drawn several points, and have added others to the description that follows. In addition to the remains of the owl, there were remains of other birds at the site, which suggest a feeding site and that the owl had been depredated, then scavenged. No other parts of the owl's body were found. Only three secondaries plus the bases of quills of two inner secondaries remained on the wing and all but the first three primaries were in good condition. The muscles had been removed, exposing the bones, and the humerus had been broken as if chewed. The sacrum had been cleaned of all musculature and detached from the carcass. Only one of the central rectrices remained attached to the pygostyle. Six other tail feathers were present, but the tips of their quills had been clipped off at angles as if by a knife. Both feet had been severed, apparently bitten at the distal ends of the tibiotarsi; some muscles of one metatarsus were gone. This bird also was more than one year old, with characteristics of the primaries and talons similar to those of the specimen (SHMM 339) collected in 1912.

Had the body parts of this Barn Owl been transported to La Barrière Park from elsewhere and, if so, how long had the remains been there? Nero detected evidence of scavenging by insects, as feces he believed to be from insect larvae had been deposited

Figure 8. Remains of Barn Owl (UMZM 2763), La Barrière Park, Manitoba, May 1995.

on the inside of the sacrum. Along with the good condition of the feathers, this suggests the remains had been there since the previous fall or even late summer, but no longer. Measurements (mm) taken by Nero (wing chord, minimum 334; flat wing, 350; tail, minimum 135; tarsus, 90; longest (central) toe, 38; foot-pad, 67) suggest an adult female from the eastern population, individuals of which are generally larger than those of the Barn Owl in the west.[25]

Great Gray Owl

Through the efforts of R.W. Nero, the collection of Great Gray Owls at the University of Manitoba has become one of the largest in North America. Seventy-nine specimens were salvaged between 1974 and 1981 plus single specimens in 1989, 1992 and 1997, for a total of 82 specimens. About 10 specimens turned in during the 1990s were not preserved due to limitations on storage space. In addition to 67 study skins of hatching- and after-hatching-year individuals, there is one clutch of eggs (UMZM 2934), two one-day-old chicks (UMZM 2931, 2932), one older nestling (UMZM 2779), and one recently fledged young (UMZM 2892). Also, body parts (feathers, wing(s), head, feet, etc.) were salvaged from seven individuals and are part of the collection. Twenty additional Great Gray Owls salvaged between January and April 1981 were preserved by Nero and turned over to the UMZM, along with detailed notes accompanying each specimen.

Also available for research are all of the primaries and rectrices molted by "Lady Grayl," a female Great Gray Owl that has been in captivity since being rescued as an undernourished nestling in 1984 and kept by Robert Nero.[31] The date each feather was shed has been recorded.

Northern Hawk Owl

I found several contour and flight feathers of a Northern Hawk Owl (UMZM 2759) strewn on the forest floor in a woodlot along the southern edge of Delta Marsh on 19 October 2000. There are relatively few records of this species outside the boreal forest in Manitoba,[23] but among them are additional records during the non-breeding season at Delta Marsh.[50]

Boreal Owl

An influx of Boreal Owls was recorded in the Winnipeg area over the winter of 1988-1989: 11 individuals (five males and six females (UMZM 2746-54, 2756-57)) were found dead and turned in to Manitoba Conservation and prepared as study skins by J.R. and P.A. Duncan. Based on the ages of the primaries,[36] three of the five males were juveniles and two were after-hatching-year adults, whereas three of the six females were juveniles and three were after-hatching-year adults. Although this sample is small, the preponderance of adult females and juveniles of both sexes supports findings that adult male Boreal Owls tend to remain near their nest sites during the nonbreeding season, even when food is scarce, whereas females and juveniles may search widely for food.[21,22] Those specimens reveal the importance of preserving salvaged specimens.

Red-headed Woodpecker

After increasing in numbers in Manitoba during the first six or seven decades of the 20th century, Red-headed Woodpeckers have become less numerous since the 1970s.[23] This trend is reflected in the dates of seven road-kills (five adults, two juveniles) salvaged on trips I made each year between Winnipeg and Delta Marsh beginning in 1973. Specimens were collected between 1973 and 1985, but since 1985 no road-kills have been found or specimens turned in. Collection details are: UMZM 997, 4.8 km north of St. Norbert, 5 August 1973; UMZM 998, Pigeon Lake, 9 July 1974; UMZM 1001, 15 km north of Anola, 7 July 1978; and UMZM 1000 (juvenile), 4.8 km west of Headingly, 24 August 1978; UMZM 999, 9.6 km west of Headingly, 8 August 1979; UMZM 991 (juvenile, wing salvaged), Headingly, 16 August 1979; and UMZM 2464, Komarno, 25 August 1985.

Northern Flicker

Five specimens exhibit a mixture of characteristics of the "yellow-shafted" and "red-shafted" subspecies of the Northern Flicker, *Colaptes auritus auritus* and *C. a. cafer*, respectively. A wing (UMZM 976) was salvaged from a road-killed bird 2.5 km north of Glenlea on 10 April 1976 and the others (UMZM 2481, 2484, 2486, 2488) were among six flickers window-killed in Winnipeg on 26 April 1982. Four other individuals show characteristics of only yellow-shafted flickers (UMZM 2482-85), the much more common subspecies in Manitoba.[23] Hybrid flickers had been taken in Manitoba at least 100 years ago.[1]

Boreal Chickadee

Boreal Chickadees are permanent residents of the northern coniferous forests of North America.[8] However, irruptions periodically occur outside the breeding range and large numbers of individuals, mostly juveniles,[33] leave the forests in fall and winter.[8] In Manitoba, 1983 was such a year. A hatching-year female (UMZM 2394) struck a window on the University of Manitoba campus in Winnipeg on 14 October and four Boreal Chickadees were banded at Delta Marsh in October. Many other Boreal Chickadees were recorded in fall 1983 at other localities in Manitoba and the Northern Great Plains region.[7,20]

Townsend's Solitaire

I salvaged a window-killed, hatching-year male (UMZM 1827) in Winnipeg on 24 September 1981. At that time, there were seven records in Manitoba, including two specimens,[13,18,38] plus one probable sighting. David I. MacKenzie observed one at the edge of the dune-ridge forest, Delta Marsh, on 26 and 27 October 1977. Sightings of this species have become almost annual events since the 1970s, and through the end of 2002, and the number of records had reached about 55, which includes the 1981 specimen recorded here.[23] Most records of this species east of the Rocky Mountains and across the Prairie Provinces have been in the fall, but occasionally individuals are sighted in early spring.[20,23,38,40]

Northern Parula

On 26 May 2002, after a prolonged cold spell, I found a dead, adult female Northern Parula (UMZM 2681), weighing only 5.7 g (1.4 g less than the lowest extreme given for females),[28] amid leaf litter in the dune-ridge forest, Delta Marsh, immediately west of the Delta Marsh Field Station. Three Nashville Warblers (UMZM 2678-80) and one each of Palm Warbler (UMZM 2677), Wilson's Warbler (UMZM 2856), and American Redstart (UMZM 2691), found dead nearby between 22 and 25 May of the same year, were added to the UMZM collection.

Previously in the dune-ridge forest, I had watched a male Northern Parula for about 15 minutes as it sang and foraged in the outer canopy of a Green Ash on 28 May 1986. More recently, three hatching-year males were banded (DMBO): one on 23 August 1998 and two in 2003, on 31 July and 8 August. P. Viola saw one female and heard a male in the ridge forest on 22 and 25 May 2001, respectively.

Recent observations suggest the existence of a small breeding population of Northern Parulas between Lake Manitoba and Lake Winnipeg,[48] north of Delta Marsh and east of the previously documented breeding range in Manitoba.[26]

Black-throated Blue Warbler

I saw an adult male on the University of Manitoba campus on 29 October 1984 and undoubtedly the same bird (UMZM 2416) was found dead on 31 October in almost the same location where the individual had been seen two days earlier. This date was the latest among the more than 70 records of this species in Manitoba.[23]

Orchard Oriole

By the early 1970s, Orchard Orioles occurred regularly in southern Manitoba.[23]

Four of the specimens in UMZM date from 1975-1976, with one each from 1981, 1983, and 2000. Many individuals have been banded. Our first record at Delta Marsh was a hatching-year female (UMZM 1528) mist-netted on 3 August 1975. In 1976, an adult female (UMZM 1526) and a second-year male (UMZM 1527) were taken on 3 and 5 June, respectively, and several nests were discovered.[39] An unsexed, hatching-year Orchard Oriole (UMZM 1525, partial skin), caught in a mist net, was killed by a Franklin's Ground Squirrel on 11 August 1976. A hatching-year male (UMZM 1814) that struck a window on the property of the Delta Waterfowl Foundation on 30 August 1981 was salvaged by J. Hochbaum, and another window-killed individual, an unsexed, hatching-year female (UMZM 2413), was salvaged in Oakland, Manitoba, about 5 km south of Delta Marsh on 17 August 1983. The latter had been banded (no. 1201-33130) in the ridge forest on 23 July of the same year, but had been mistakenly recorded as an after-hatching-year female when banded. Finally, an adult male (UMZM 2857) with an irreparably damaged wing was found in the dune-ridge forest on 3 June 2000. This bird retained three bicoloured (black and olive) rectrices on the left side of the tail, characteristic of the first basic plumage, whereas the other tail feathers were black with white tips, typical of males in the definitive alternate (breeding) plumage.[37]

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SEARCHING FOR EDWARD CALCUTT

C. STUART HOUSTON and MARY I. HOUSTON, 863 University Drive, Saskatoon, SK S7N 0J8.

Our story begins with Wells W. Cooke, North America's leading investigator of bird migration during the final two decades of the 19th century. Cooke began collecting early spring migration dates, beginning with 13 observers in eight states in 1882, and 26 observers in 1883. From these he calculated that birds traveled an average of 23 miles per day. Concentrating particularly on the Mississippi River valley, he was joined by three Manitoba observers in 1884 and another three in 1885, the latter including for the first time, Edward Calcutt. Calcutt lived just east of the Saskatchewan-Manitoba boundary near "Shell River post office," [1] and a mile east of Minniska post office which was established in 1890 (8 km north of present Russell). Copies of Calcutt's 1885 migration dates were made available to Ernest Thompson [Seton] when he published *Birds of Manitoba* in 1891.[4]

In 1975, when we began updating the Yorkton area bird records, we realized that the Calcutt records from Shell River might fall near the Saskatchewan boundary. At our request, Chan Robbins at the Patuxent Wildlife Research Center in Laurel, Maryland, sent us copies of the Calcutt records and correspondence. From these we learned that the Calcutt homestead was ten miles east of the Saskatchewan boundary, on section 26-21-28 WPM (west of the principal meridian or W1). Calcutt had, for those times, dates for an unusually large list of species (130).

Calcutt's Migration Dates

Since Calcutt was a farmer working outdoors much of the day, with bush and a small lake visible from his house (Figure 1), most species should have been recorded on the day they arrived. Those interested in climatic change will note that most species in the accompanying table, especially the earliest arrivals, came later in the spring than they do now over one century later.

Calcutt used many species names that are no longer familiar, but added marginal notes

Figure 1. Calcutt Lake ***Mary Houston***

giving descriptions of features for perplexing species. Using his notes and several references for checking old names, we have assigned current names to many of Calcutt's species in Table 1.[3,4] Species readily identified were yellow-bird for Yellow Warbler, cherry-bird for Cedar Waxwing, and yellow-headed warbler for the Chestnut-sided Warbler. In early spring the "Longspur Lark" was the Lapland Longspur. In the prairie provinces, the "hen hawk' was either the Red-tailed or Swainson's but the date and location left little doubt that it was the former. The "Prairie Hawk" was the Northern Harrier. We were initially confused by Calcutt's use of the term "flycatcher" to include all warblers. The term "sanderling" might have included any of the "peeps." Birds not identified are listed for each of the three years at the bottom of Table 1.

Records of greatest interest were a pair of Whooping Cranes on April 30, 1885, and another pair on April 16, 1890. As elsewhere, Cliff Swallows built on buildings immediately, whereas Barn Swallows and Purple Martins remained only "transients" through 1885. Before Mourning Doves had spread this far west, the five "wild pigeons" on June 15, 1885 were almost certainly Passenger Pigeons, as Seton assigned them; none was sighted in 1890 or 1891. The pallid northern subspecies of the Horned Lark, destined for the Arctic tundra, came through in numbers in late May.

Some easy-to-identify large species were not reported in any of the three years: American White Pelican, swan, Great Blue Heron, and Snowy Owl. Neither species of bluebird was reported. By 1890, Calcutt had either learned to identify, or perhaps saw for the first time: Ruddy Turnstone; Willet; Wilson's Thrush or Veery; Olive-backed or Swainson's Thrush; Orange-crowned Warbler; Savannah Sparrow; Chestnut-collared Longspur.

Our 2003 visit

We had a chance to visit the Calcutt homestead on October 26, 2003. Gary Halwas, who lives on the southeast quarter of section 26, directed us across his harvested stubble to the remains of a basement excavation on a tongue of treed land overlooking Calcutt Lake. He had not heard

TABLE 1. MIGRATION DATES for 130 species, MINNISKA, MANITOBA, 1885-1891

2004 Species Name	Name or description given by Calcutt	1885 #		1890 #		1891#	
Greater White-fronted Goose	Large Grey Wild Goose	Apr 10	18	Apr 11	2	Apr 12	6
Snow Goose	Wavey or Snow Goose			May 20	8		
Canada Goose	Canada Wild Goose, five goslings in 1891	Apr 9	15	Apr 2	2	Mar 28	1
Brant?	Brant Goose			Apr 18	30	Apr 28	25
American Wigeon	Widgeon Duck or Bald Pate Duck	May 12	2	Apr 20	19	Apr 23	7
Mallard	Mallard Duck	Apr 6	12	Apr 13	2	Apr 7	2
Blue-winged Teal	Blue Winged Teal Duck	May 2	2	Apr 18	4	Apr 25	6
Northern Shoveler	Spoon Bill Duck	May 8	2	Apr 24	7	Apr 20	7
Northern Pintail	Pin Tail Duck	Apr 20	4	Apr 20	22		
Green-winged Teal	Golden or Green Winged Teal Duck	May 2	2	Apr 17	9	Apr 20	8
Canvasback	Canvas Back Duck	Apr 24	4	Apr 20	4	Apr 22	8
Redhead	Red Head Duck	May 3	2	Apr 20	16	Apr 22	15
Lesser Scaup	Blue Bill Duck	May 1	2	Apr 17	20	Apr 10	21
White-winged Scoter	Sea Duck with white stripe on wing	May 12	1	May 23	2	May 23	6
Bufflehead	Buffle Head or Butter Duck	Apr 27	2	Apr 21	4	Apr 21	12
Common Goldeneye	Golden Eye or Whistler Duck	Apr 28	1	Apr 20	2	Apr 21	3
Hooded Merganser	Mourning Duck or Hooded Merganser	May 11	8	Apr 28	2	Apr 28	6
Common/Red-breasted Merganser	Shelduck Duck			May 3	2		
Ruddy Duck	Fan Tail or Dun Duck, white face patch	May 23	1	Jun 2	8	Apr 26	21
Sharp-tailed Grouse	Common Sharp Tail Grouse			winter			
Common Loon	Northern Loon or Northern or Great Diver	May 4	2	Apr 19	2	Apr 21	12
Horned Grebe?	Common Grebe or Hell Diver	May 3	2			May 1	2
Red-necked Grebe?	Large Grebe	May 13	2			Apr 28	1
Western Grebe?	Hooded Grebe	May 11	2	May 15	7	May 1	9
Double-crested Cormorant	Common Cormorant or Crow Duck	May 13	4	May 29	18	May 20	4
American Bittern	Common American Bittern	May 4	1	Apr 29	2		
Black-crowned Night-Heron	Common Night Heron	May 16	1				
Turkey Vulture	Turkey Vulture	Apr 25	2	May 21	4		
Osprey	Fish Hawk	Apr 4	2	Apr 12	1		
Bald Eagle	Bald Eagle					Jun 2	2
Northern Harrier	Prairie or Marsh Hawk; Harrier Blue Hawk	Apr 9	2	Apr 14	4	Apr 4	2
Sharp-shinned Hawk	Sharp Shinned Hawk					May 10	1
Red-tailed Hawk	Hen Hawk	Apr 5	1	Apr 3	1		
Golden Eagle	Golden Eagle			May 22	2	Apr 15	1
American Kestrel	Sparrow Hawk	Apr 14	1	Apr 3	1	Apr 22	1
Peregrine Falcon	Duck Hawk					Apr 8	2
Virginia Rail	Virginia Rail			Jun 6	1		
Sora	Water or Common Rail, short yellow bill	May 12	2	May 21	2	May 20	2
American Coot	Water Hen; nest, 13 eggs, 1885	May 12	2	Jun 7	6		
Sandhill Crane	Sand Hill Crane	Apr 19	2	Apr 15	3	Apr 14	2
Whooping Crane	White Crane, black wing tips	Apr 30	2	Apr 16	2		
Black-bellied Plover	Black Belly Field Plover			May 16	30	May 19	40
American Golden-plover?	Black Bellie Field or Golden Plover	May 26	50			May 16	1
Killdeer	Kill Deer Plover	Apr 6	1	Apr 7	1	Apr 11	2
Greater Yellowlegs	Large Yellow Shank	Apr 24	7			Apr 14	2
Lesser Yellowlegs	2nd size Yellow Shank	Apr 24	3	Apr 15	7	May 9	7
Solitary Sandpiper	Solitary Sandpiper Plover			May 31	1		
Willet	Willet Plover			May 31	2		
Spotted Sandpiper	Common Sandpiper, breeds here					May 9	2

Upland Sandpiper	Prairie Plover, peculiar call	May 4	2	May 11	4	May 20	4
Long-billed Curlew	Long-billed Curlew, rare here			Jun 7	3		
Ruddy Turnstone	Turnstone Plover			May 15	2	May 10	2
Sanderling?	small sanderling plover					May 19	35
Wilson's Snipe	English Snipe	May 4	1	Apr 16	3	Apr 18	2
Phalarope	Lake or Swimming Plover			May 16	15		
Franklin's Gull?	Black Head Small Gull	Apr 24	2	Apr 25	2	Apr 15	3
Herring Gull?	largest gull			May 4	1	Apr 19	1
Black Tern	Small Blue Tern, black breast, Keask	May 18	11	May 25	18	May 24	23
Passenger Pigeon	Wild Pigeon; ETS	Jun 15	5				
Black-billed Cuckoo	Black-billed Cuckoo	Jun 16	2	Jun 8	2	Jun 1	1
Great Horned Owl	Great Horned Owl	winter		Apr 2	2		
Barred Owl	Barred Owl			Jun 8	1		
Long-eared Owl	Long Eared Owl					May 21	2
Common Nighthawk	Night Hawk	May 24	1	May 27	1	May 26	4
Whip-poor-will	Whip Poor Will; stayed until August	Jun 20	1				
Ruby-throated Hummingbird	Common Green Humming Bird	Jun 3	1	May 31	1	May 21	1
Belted Kingfisher	Kingfisher	May 1	1				
Yellow-bellied Sapsucker	Red Head and Throat Striped Woodpecker	May 3	2				
Downy Woodpecker?	Red-naped Small Striped Wood Pecker	winter		Apr 2	1	Apr 2	2
Northern Flicker	High Holder or Golden Wood Pecker	Apr 27	2	Apr 16	2	Apr 20	2
(Western?) Wood-pewee	Wood Pewee			Jun 9	2	May 23	1
Eastern Kingbird	King Bird	May 21	1	May 24	7	May 21	2
Loggerhead Shrike	Northern Shrike, breeds					May 12	2
Northern Shrike	Butcher Bird or Northern Shrike	Mar 14	1	Apr 8	2		
Red-eyed Vireo?	olive-green, white breast, sings constantly	Jun 8	2				
Gray Jay	Labrador or Hudson Bay Jay	winter		Apr 1	2		
Blue Jay	Blue Jay, on and off all winter, 1890-91	May 15	2			Apr 1	7
Black-billed Magpie	American Magpie			Apr 8	1		
American Crow	Crow or Common Crow	Apr 3	5	Apr 1	4	Arp 1	2
Common Raven	Common Raven			Apr 3	2		
Horned Lark	Horned or Shore Lark, pallid	May 23	50	Apr 1	6	May 21	31
Purple Martin	Purple Martin	May 23	1	May 22	4	May 25	2
Tree Swallow	Tree Swallow			May 1	20		
Bank Swallow	Bank Swallow	Apr 30	17			Apr 26	19
Cliff Swallow	House or Mud or Cliff Swallow	May 23	18	May 23	5	May 25	7
Barn Swallow	Barn Swallow, forked tail	May 30	4				
Black-capped Chickadee	Chick A Dee	winter					
House Wren	House Wren	May 17	2	Jun 1	2	May 20	2
Marsh Wren	March Wren			Jun 5	4		
Veery	Wilson's Thrush			Apr 19	1	May 21	2
Swainson's Thrush	Solitary Thrush or Olive-backed Thrush	Apr 30	2	May 31	4		
Hermit Thrush	Solitary Thrush or Hermit Thrush	Apr 18	2	Apr 21	1	May 13	3
American Robin	Robin	Apr 13	2	Apr 7	1	Apr 13	5
Gray Catbird	Cat Bird	May 18	1	May 26	2	May 22	2
Brown Thrasher	Brown Thrasher Thrush or Long-tailed Thrush	May 23	1	Jun 4	2		
Cedar Waxwing	Cherry Bird	Jun 5	5	May 30	21	May 22	7
Orange-crowned Warbler	Orange Crowned Warbler			May 31	2		
Yellow Warbler	Common Yellow Bird	May 15	3	May 29	4	May 20	3
Chestnut-sided Warbler	Yellow Crowned Warbler			Jun 4	3		
Yellow-rumped Warbler	Striped or Yellow-rumped Flycatcher	Apr 30	19	Apr 27	2		
American Redstart	Small Orange and Black Flycatcher	May 24	2				
Eastern Towhee	Towhee Bunting					May 8	1

American Tree Sparrow	Sparrow, White Wing Bar, breast spot, red pol	Apr 10	50	Apr 7	1		
Chipping Sparrow	Common Chipping Sparrow			May 1	3	May 16	7
Clay-colored Sparrow	Small Grey Bird; nest 4 eggs, 1985; ETS	May 18	9				
Vesper Sparrow	Sparrow, white tail feathers	Apr 29	2	May 1	6	Apr 29	3
Savannah Sparrow	Savanna Sparrow			Apr 30	1		
Song Sparrow	Song Sparrow	Apr 18	5	Apr 19	5	Apr 23	2
White-throated Sparrow	Sparrow, yellow spot over eye, ETS	May 6	2			Apr 27	14
Harris's Sparrow	Bull Finch or Black Head Sparrow	May 15	3	May 4	1	Apr 1	3
Dark-eyed Junco	Slate-coloured Snow Bird	Apr 8	1	Apr 4	1	Apr 8	5
Lapland Longspur	Longspur Lark					Mar 28	7
Chestnut-collared Longspur	Chestnut Longspur			May 31	3		
Snow Bunting	Snow Bird or Bunting	winter		winter			
Rose-breasted Grosbeak	Rose Breasted Gross Beak	May 16	1			May 23	2
Bobolink	Rice Bird or Bobolin; nest, 6 eggs, 1885	May 18	1	May 18	3	May 18	2
Red-winged Blackbird	Red-shouldered Black Bird	Apr 13	31	Apr 13	3	Apr 15	5
Western Meadowlark	Meadow Lark	Apr 12	1	Apr 12	2	Apr 7	1
Yellow-headed Blackbird	Yellow Head Black Bird	May 1	1	Apr 22	5	May 8	13
Rusty Blackbird	Rusty Black Bird			Apr 18	18	Apr 16	10
Brewer's Blackbird	Brewer's Black Bird					Apr 16	20
Common Grackle	Crow or Bronzed Black Bird	Apr 15	17	Apr 18	11	Apr 16	9
Brown-headed Cowbird	Cow Bunting	May 14	5	May 12	3	May 10	9
Baltimore Oriole	Baltimore Oriole	May 16	1	May 29	2		
Pine Grosbeak	Pine Gross Beak, last seen, Apr 12/90	winter		winter			
Purple Finch ?	Red or Scarlet Finch; ETS	Apr 30	1	Apr 18	7	Apr 19	2
White-winged Crossbill	White Wing Cross Bill			Mar 20	1		
Common Redpoll	Red Polled Linnet; last seen, Mar 21/90	winter					
American Goldfinch	Thistle Bird or American Gold Finch	May 24	1	Jun 3	2	May 24	1
Evening Grosbeak	Gros Beak, yellow	Feb 20					

Notes: ? after the name in left column indicates that identification is only probable.
ETS - identification corroborated by Ernest Thompson Seton, Birds of Manitoba, citing Calcutt's 1885 dates only.
Keask - a Cree name listed by Calcutt.

UNIDENTIFIED SPECIES (1885)

Black or Dark Brown Eagles, 2 on Apr 25, classed by ETS as Turkey Vultures.
"Very small dark grey" winter owl might have been a Boreal, too small for Northern Hawk-Owl, too grey for Saw-whet?
"Wood Thrush" - ERROR IN NAME — another hand (W.W. Cooke?) wrote: "probably Hermit".
"Solitary or Hermit Thrush" - another hand (WWC?) wrote: "probably Olive-backed". Solitary then meant Hermit Thrush.
"Greenish-yellow Flycatcher" with small white bars on wings = warbler. Could be Tennessee, Blackpoll or Pine Warbler .
"Sandpiper Plover," 2 on May 25.

UNIDENTIFIED SPECIES (1890)

flycatcher = warbler, "striped & blue" 3 on April 18, too early for Canada, too far west for Cerulean, so probably Yellow-rumped
"Olive-backed Flycatcher," 2 on June 5, might have been correctly identified — if not a warbler.

UNIDENTIFIED SPECIES (1891)

"Curlew Plover," 5 on May 15.
"Yellow-bellied Flycatcher," 5 on May 12, might have been correctly identified — if not a warbler.

of the name Calcutt, but later his friend Willis Kieper informed us that the lake on this section was known as Calcutt Lake. Calcutt had described this situation as follows in his letter to Cooke on February 7, 1885 in which he accepted Cooke's invitation to send spring migration records that year: "On my place there is a large bluff of poplar woods and a lake in front of the house of over ninety acres, and more birds visit this bluff than any other place in the county."

Calcutt's June 25 letter, which accompanied Calcutt's mailing of his first year of migration records, described the spring weather in 1885. "It has been a very unfavourable spring. ... The weather was so very cold and backward." However, he guessed that he had "not missed any birds unless a kinglet."

On our return to Saskatoon, we contacted the Manitoba Archives for Calcutt's homestead records. We expected four to ten pages of information, but to our surprise, Idelle Talbot, research assistant in Winnipeg, responded with photocopies of 120 pages. And what an interesting story they revealed! Calcutt was 53 years old when, on May 28, 1880, he arrived in western Manitoba, with his wife, Harriet, and their two sons, William and Albert. This was before homestead entries were available and he picked what he thought was suitable land, on what the surveyor later designated 26-21-29 WPM and "squatted" there. He had "pitched upon a nice situation, not knowing what land it was, but proved to be Hudson's Bay Co." Calcutt named it Lake View Farm.

Calcutt built a log house in November 1880. In March, 1883, he borrowed money and purchased section 35, due north of him, for $2 per acre. The south or adjacent half was for William and the north half was for his son, Albert, then farming near Owen Sound, Ontario. By July 1885, the year before the railway reached Russell (which was four miles south and two miles west), Edward Calcutt had a log stable 16 x 24 feet and a log granary 20 x 20. Acres under cultivation on the northeast quarter were: 8 in 1881, 12 in 1882 and 1883, and 24 acres in 1884.

The Calcutt occupancy of the northeast quarter of section 26 became legal on May 4, 1886, when letters patent were issued. However, it required more than another eleven years to obtain title to the adjacent northwest quarter, with about 100 pages of correspondence between Ottawa, Winnipeg, the land office at Birtle, and the Hudson's Bay Company (HBC) throughout most of this period. As Mrs. Harriet Calcutt explained in her letter to Mr. H.H. Smith, Commissioner of Dominion Lands, Winnipeg, on Aug 28, 1893, "We built our house and stables before the surveyors came & found our house was just on the line dividing the N.E. and N.W., our stable & granary on the latter quarter ...Our N.E. quarter has only 144 acres, 15 of it being in the lake... As squatters of nearly 13 years residence ... all this has worried me greatly – very few settlers are coming into this part – there is no money in farming, but simply a living – plenty of abandoned farms laying around." The fur trading company agreed to relinquish its title, in return for equally suitable land elsewhere. After much correspondence, the HBC finally accepted as a fair trade, NE 28-31-10w2, north and east of the later village site of Tuffnell, Saskatchewan.

On April 16, 1897, Calcutt's possessions were listed: a concrete house, 20 x 24 feet (built in 1887), shingled, one floor, with cellar, valued at $250; three log stables, a log granary, a hen house and root house, with these additional buildings valued, with the well, at $260 (based on the Homestead Inspector Report #914). The garden occupied half an acre and 50 acres were now under cultivation. Stock consisted of 20 cattle and three horses. The applied-for northwest quarter consisted of 90 acres of rough scrub land and hillside, none of it, other than the garden, fit for cultivation, and 70 acres of lake.

The final entry in the homestead file was for April 5, 1902, when Calcutt was 75 years old. His lawyers in Winnipeg wrote to enquire on his behalf whether patent could be obtained for "that portion of the land which was covered by the water." We don't know when Calcutt died. "Mrs. Calcutt," probably Harriet, purchased a burial plot in 1901. We do know that Albert E. Calcutt, Edward's son, then "squatting" without title on NW 14-22-27, five miles east and three miles south of the future site of the town of Inglis, near the western boundary of Riding Mountain National Park, witnessed his father's signature in May 1897. Albert died in Russell on September 17, 1897, at age 44, after a brief illness,[2] and is buried in the cemetery there. There are no tombstones on any of the three Calcutt plots.

1. COOKE, W.W. 1888. Bird Migration in the Mississippi Valley, 1884-1885. U. S. Dept. Of Agriculture Div. Economic Ornithology Bull. #2.

2. RUSSELL CHRONICLE AND FREE TRADE ADVOCATE, September 25, 1897 (microfilm).

3. SAYRE, J.K. 1996. North American Bird Folknames and Names. Foster City, CA: Bottlebrush Press.

4. THOMPSON, E.T. [Seton]. 1891. The birds of Manitoba. *Proc. U.S. National Museum* 13:457-643.

"There is much good land in the valley from the Fishing Lakes to the Assiniboine, but as it is flooded every spring, it is questionable whether it will ever be of much importance. For ten miles up there is an abundance of timber consisting of aspens, balsam-poplars, elm, black ash, oak, birch and sugar maple....In this wooded part the birds are innumerable. Kingfishers, blue jays, and Canada jays, catbirds, and American magpies, flitted from tree to tree uttering their discordant notes. Cherry-birds and pigeons were calmly and listlessly perched on the dense trees, having eaten plentifully of their favourite fruits, while the tyrant flycatcher, when alone or with some companions, chased and worried the crows, ravens, hawks, and eagles who tried in vain to escape from them. The beautiful white-bellied swallow swiftly skimming the surface of the river, helped in addition to enliven the valley."

"The Birch Hills form the dividing ridge between the water which flows into the main Saskatchewan and the Assiniboine, or Red Deer and Swan Rivers. The remarkable profusion of flowers gives extraordinary beauty to large open areas; they generally occur in parterres of several acres in extent occupied by one species, here the yarrow, there the fireweed, then a field of a species of helianthus, followed by Liatris scariosa. When viewed from an eminence, the country appeared to be clothed with pink, white, yellow, and blue, in singular contrast to the uniform tint that prevails on the great prairies of the Little Souris."

Henry Youle Hind, *Narrative of the Canadian Red River Exploring Expedition of 1857 and of the Assiniboine and Saskatchewan Exploring Expedition of 1858*, p.378 and 406 .

THE ST. LAZARE AREA OF MANITOBA: A BIODIVERSITY HOTSPOT

CARY HAMEL, Manitoba Conservation Data Centre, Winnipeg, MB and ELIZABETH REIMER, University of Saskatchewan, Saskatoon, SK

Introduction

The area between St. Lazare, Manitoba and the Saskatchewan border represents one of Manitoba's largest intact native prairie landscapes. The uplands and river valleys in this region in turn support a number of species that are considered provincially rare in Manitoba. While White and Johnson (1980) reported seven provincially rare plant species from St. Lazare, current information is unavailable because few recent botanical surveys have focussed on this area.[9] In 2002, staff of the Manitoba Conservation Data Centre (CDC) attempted to update rare plant

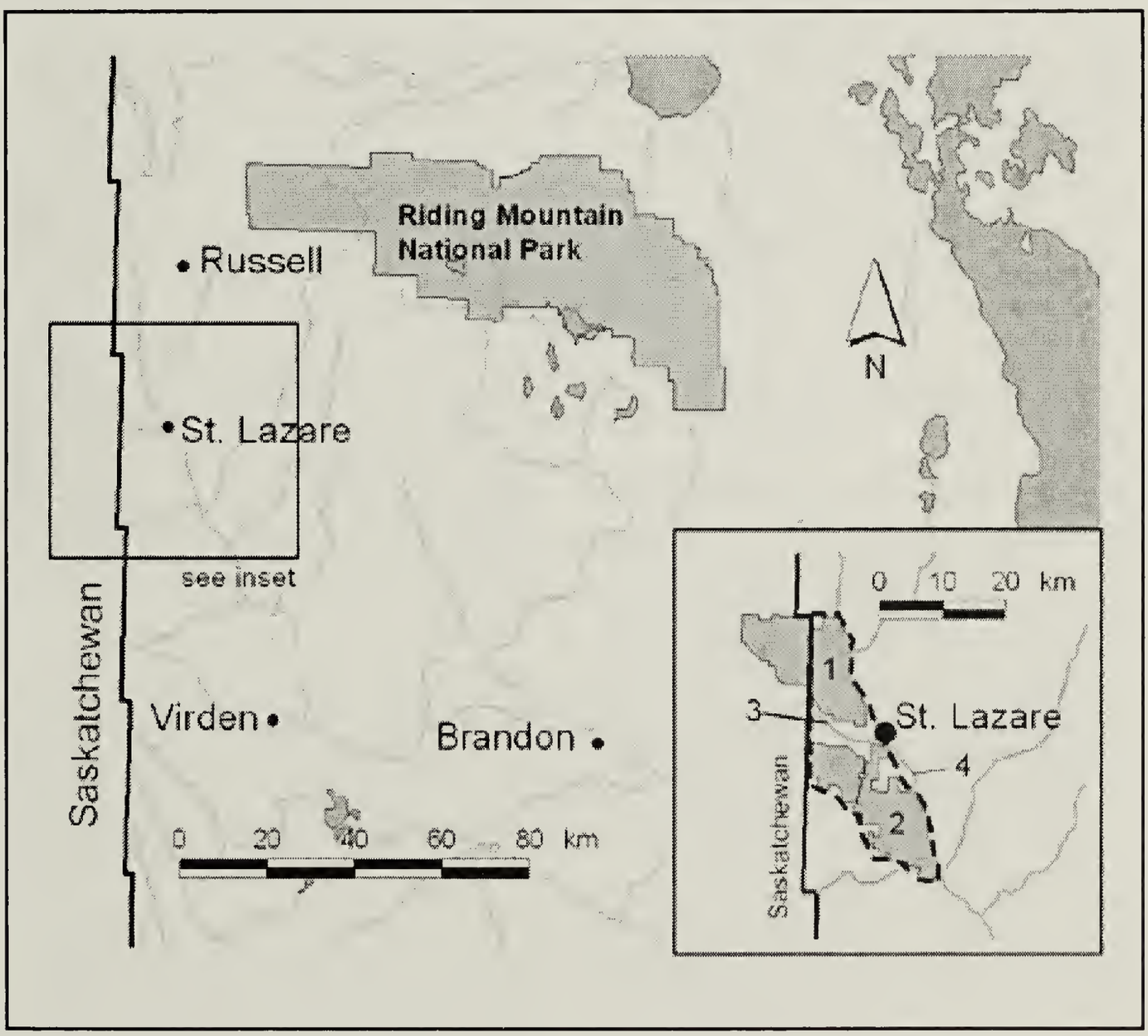

Figure 1. A portion of southwestern Manitoba showing the location of St. Lazare. Within the inset image, '1' corresponds to the Spy Hill-Ellice Community Pasture, '2' to the Ellice-Archie Community Pasture, '3' to the Qu'appelle River, and '4' to the Assiniboine River. The approximate bounds of the study area are indicated by the dashed line.

records from St. Lazare, and search for new occurrences of rare flora and rare grassland birds encountered incidentally. Comprehensive, up-to-date information is critical to assessing the status of rare species and identifying population trends and possible threats to these species and their habitats. Effective landscape-scale conservation planning and conservation-minded land management also hinge on the quality of available biodiversity data.

Methods

Site description

The study focussed on upland native habitat northwest and southwest of St. Lazare, Manitoba, as well as within the Qu'Appelle River Valley immediately west of the town (Figure 1). The study area is bounded on the west by the Manitoba/Saskatchewan border and on the east by the Assiniboine River. The Qu'Appelle River runs through the middle from west to east. The study area is an example of a grassland community within the Aspen Parkland ecoregion.

The south side of the Qu'Appelle River Valley, near the town of St. Lazare, is dominated by Aspen (*Populus tremuloides*) woodland, but the north side is characterised by grassland. Deltaic sand deposits mark its junction with the Assiniboine River. In places this sand has been reworked by wind into dunes that have since become partially to fully vegetated. Large Prairie Farm Rehabilitation Administration (PFRA) community pastures dominate the uplands on both sides of the Qu'Appelle River Valley, with Ellice-Archie (152.6 km^2) to the south and the border-straddling Spy Hill-Ellice (159.7 km^2, 84 km^2 of which is within Manitoba) to the north. The pastures are flat, open grasslands with occasional stands of Aspen. Creeks and gullies wind through the area, and these are often lined with trees such as Paper Birch (*Betula papyrifera*), Bur Oak (*Quercus macrocarpa*), Balsam Poplar (*Populus balsamifera*) and Aspen.

Soils in the community pastures are mostly of the Marringhurst association, characterised by sandy loam, with moderate to excessive drainage.[2] These soils are susceptible to drought and wind erosion. Typical vegetation on this soil association includes Blue Grama (*Bouteloua gracilis*), Porcupine Grass (*Hesperostipa spartea*), June Grass (*Koeleria macrantha*), Spear Grass (*Hesperostipa spartea*), Prairie Sagewort (*Artemisia ludoviciana*), Low Goldenrod (*Solidago missouriensis*), Creeping Juniper (*Juniperus horizontalis*), and Three-flowered Avens (*Geum triflorum*).[6]

The two community pastures, and the Qu'Appelle River Valley between them, represent an island of native habitat within an area largely converted to cultivation (Figure 2).

Survey methodology

Surveys concentrated on four distinct habitats: the sandhill area within the Qu'Appelle River Valley near its confluence with the Assiniboine River; the untreed prairie on the south-facing slope of the Qu'Appelle River Valley; the open sandy prairie dominating the uplands immediately north and south of the valley; and freshwater springs on the upper slopes of the Assiniboine and Qu'Appelle Rivers and their tributaries.

The authors conducted surveys on May 27 to 28, June 17 to 20, and August 12 to 13, 2002. Study sites were accessed by truck or on foot. The locations of rare species and other organisms of interest were recorded with a Garmin GPS unit. Additional information recorded at each site included patch size, abundance, habitat, associated species, slope, aspect, and condition. Where populations were sufficiently large, voucher specimens of selected species were collected and deposited in the University of Manitoba Herbarium (WIN). Plant scientific nomenclature follows Kartesz.[5]

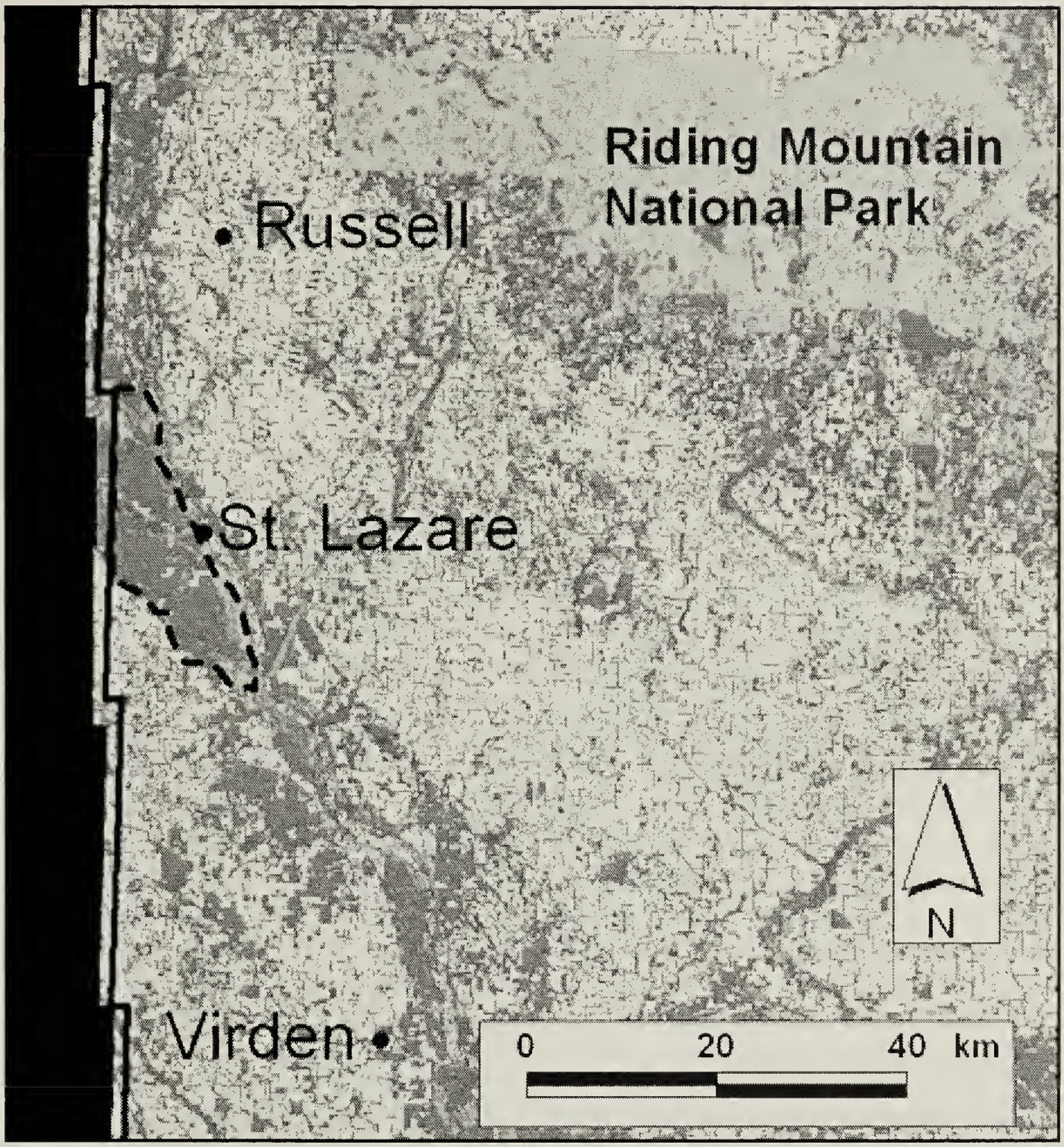

Figure 2. A Landsat satellite image of a portion of southwestern Manitoba. Shading represents the differing reflectance of various habitat types. Light shading represents cultivated lands, whereas darker shading indicates grassland, forest, or water. Darkly shaded areas in and around Riding Mountain National Park and in river valleys are largely forest; other darkly shaded areas are largely grassland. The grasslands and forested areas near St. Lazare represent an island of native habitat within a region dominated by cultivated lands. The approximate bounds of the study area are indicated by the dashed line.

Observations of Sprague's Pipit were recorded on an opportunistic basis. Song and behaviour were used to identify this species, a standard identification practice for this cryptic bird (Ken De Smet, Manitoba Conservation, pers. comm.). All occurrences of rare organisms were mapped in the Manitoba CDC database using the Biotics 3.1 GIS application.

Results

Four rare species (Low Townsendia (*Townsendia exscapa*), Indian Rice Grass (*Achnatherum hymenoides*), Waxleaf

Beardtongue (*Penstemon nitidus*) and Sand Bluestem (*Andropogon hallii*)) were found in the sand deposits at the junction of the Qu'Appelle and Assiniboine Rivers. This community was dominated by Plains Wormwood (*Artemisia campestris*), Sand Grass (*Calamovilfa longifolia*), Sand Dropseed (*Sporobolus cryptandrus*), Holboell's Rock-cress (*Arabis holboellii*), and Creeping Juniper. Smooth Brome (*Bromus inermis*) and Alfalfa (*Medicago sativa*) dominated roadsides at this site. Open sand at a sand extraction site supported Waxleaf Beardtongue and Sandmat (*Chamaesyce serpyllifolia*).

One rare species (Sand Bluestem) and one uncommon species (Yellow Umbrella-plant (*Eriogonum flavum*)) were observed in grasslands on the south-facing valley slope above the Qu'Appelle River. Sand Bluestem and Sand Grass dominated these sites. In contrast, other portions of the south-facing slope were characterised by woodland species, especially Bur Oak, Chokecherry (*Prunus virginiana*), Aspen, and False Solomon's-seal (*Maianthemum stellatum*).

Four rare species (Waxleaf Beardtongue, Slender Beardtongue (*Penstemon procerus*), Early Yellow Locoweed (*Oxytropis sericea*) and Sprague's Pipit) and two uncommon species (Large-fruited Parsley (*Lomatium macrocarpum*) and Moss Pink (*Phlox hoodii*)) occurred in the open sandy prairie of the uplands. This community was dominated by Creeping Juniper, Big Bluestem (*Andropogon gerardii*), Little Bluestem (*Schizachyrium scoparium*), Blue Grama, *Stipa* species, bare sandy soil, and mosses and lichens. Aspen copses were occasional.

One rare species (Roundleaf Monkey-flower (*Mimulus glabratus*)) was observed in freshwater springs. Vegetation around springs was normally characterised by a canopy of Balsam Poplar and other deciduous trees, a dense shrub canopy, and a mossy understory through which cold spring water flowed.

Rare and Uncommon Species

Surveyors recorded 40 occurrences of eleven provincially rare or uncommon species (Table 1). These species can be sorted into two groups. The first, comprised of western grassland species that reach the northeastern limit of their range in southwestern Manitoba, are considered

Table 1. Rare and uncommon species encountered in the St. Lazare area. More details about each species can be found in the text.

Latin Name	Common Name	G Rank*	N Rank*	S Rank*
Achnatherum hymenoides	Indian Rice Grass	G5	NNR	S2
Andropogon hallii	Sand Bluestem	G4	N1	S2
Anthus spragueii	Sprague's Pipit	G4	N4	S2S3B
Eriogonum flavum	Yellow Umbrella-plant	G5	N5	S3
Lomatium macrocarpum	Large-fruited Parsley	G5	NNR	S3?
Mimulus glabratus	Roundleaf Monkey-flower	G5	N2	S1
Oxytropis sericea	Early Yellow Locoweed	G5	NNR	S1
Penstemon nitidus	Waxleaf Beardtongue	G5	NNR	S2
Penstemon procerus	Slender Beardtongue	G5	NNR	S1S2
Phlox hoodii	Moss Pink	G5	NNR	S3S4
Townsendia exscapa	Low Townsendia	G5	NNR	S2

* G Rank = Global Conservation Status Rank, N Rank= National Conservation Status Rank, S Rank = Subnational (Manitoba) Conservation Status Rank. Ranks roughly correspond to: 1=very rare, 2=rare, 3=uncommon, 4=apparently secure, 5=secure. NR=not ranked, B=breeding. Full definitions can be viewed at http://web2.gov.mb.ca/conservation/cdc/info.php

provincially rare in Manitoba but are common in the heart of their range to the west and south. One of these species, Early Yellow Locoweed, is known in Manitoba only from the St. Lazare area. The second group consists of species considered rare across Canada, as well as in Manitoba.

Group 1: Prairie species reaching the edge of their range in southwestern Manitoba

Early Yellow Locoweed was found on open prairie in May and June in upland areas both north and south of the Qu'Appelle River Valley. It was easiest to identify in May when the showy light yellow flowers were evident and the stems of the surrounding grasses were not elongated. CDC surveys in 2002 confirmed the continued presence of the species in Manitoba; the species was first recorded near St. Lazare by Macoun & Herriot in 1906.[8] This species is at the northeastern limit of its range in Manitoba but is considered secure in Saskatchewan.

Low Townsendia was found at 2 locations, both within the Qu'Appelle River Valley on sparsely vegetated sandhills. This species is also known from other sandhill areas in southwestern Manitoba.

Indian Rice Grass was found in open sand near the confluence of the Qu'Appelle and Assiniboine Rivers. It is also known from other sandhill areas in southwestern Manitoba.

Waxleaf Beardtongue was observed flowering in June at three prairie areas of the Qu'Appelle River Valley and the uplands north of the river (Figure 3). Outside of the St. Lazare area, this species has been recorded at only two other Manitoba locations.

Slender Beardtongue was observed in mid-June at five locations in the uplands south of the Qu'Appelle River. The CDC database contains records for previous collections from near Pierson, Virden, Miniota and Reston, but none more recent than 1950.

Large-fruited Parsley was observed flowering in May and fruiting in June. CDC surveys located two occurrences in the uplands south of the Qu'Appelle River

Figure 3. Waxleaf Beardtongue in upland habitat north of the Qu'appelle River Valley. The Valley can be seen in the background.

Figure 4. Large-fruited Parsley habitat in the uplands southwest of St. Lazare.

(Figure 4). This species is known from a number of widely separated locations in south-central and southwestern Manitoba.

Yellow Umbrella-plant was observed at a single location in prairie on the south-facing slope of the Qu'Appelle River Valley west of St. Lazare. This provincially uncommon species is also known from a number of other locations in southwest Manitoba.

Moss Pink was observed twice, at the top of a slope overlooking the Assiniboine River and on a gentle slope within open prairie. The provincial conservation status of Moss Pink is uncertain; it has been assigned a conservation rank of S3S4 (uncommon to apparently secure). The species occurs in dry prairies in southwestern Manitoba.

Group 2: Nationally rare species

Roundleaf Monkey-flower was found in August in springs and seepy slopes at three locations. This species is a freshwater spring-obligate and is rare in every Canadian province where it occurs. The Manitoba Endangered Species Advisory Committee recommended a status of Threatened for Roundleaf Monkey-flower in February 2003. The status of Roundleaf Monkey-flower in Manitoba and its presence in the St. Lazare area have been previously documented in *Blue Jay*.[3,4]

Sand Bluestem was observed only in the sandhills that occur near the confluence of the Qu'Appelle and Assiniboine rivers, and on the south-facing slope of the Qu'Appelle River Valley. The species is a relatively common member of the flora of sandhill areas in southwestern Manitoba.

Sprague's Pipits were observed in the open prairies of uplands both north and south of the Qu'Appelle River Valley. Listening stops made in appropriate habitat revealed pipits at 72% of stops (n=19 observations). This species is protected under Canada's *Endangered Species Act* as a Threatened species.

Discussion

With its abundance of native grassland

and associated habitats, and concentration of provincially and nationally rare species (Figure 5), the St. Lazare area represents an excellent opportunity for conservation. In 1987, Rowe estimated that 80% of the Aspen Parkland was under cultivation, with most remnants fragmented into patches less than 1000 hectares in size.[7] Cultivation continues to be a threat to the prairies, with 4.7 million hectares of marginal land cultivated annually.[1] Other threats to the region include resource extraction, especially sand and gravel, potash, and petroleum.

The PFRA has been managing the Spy Hill-Ellice Community Pasture since 1941, and the Ellice-Archie Community Pasture since 1940. Management strategies in the community pastures include grazing and controlled burns (John Istace, PFRA, pers. comm.). Most rare prairie plants in the community pastures are adapted to both burning and grazing, and have an excellent chance of persisting under the current management strategy.

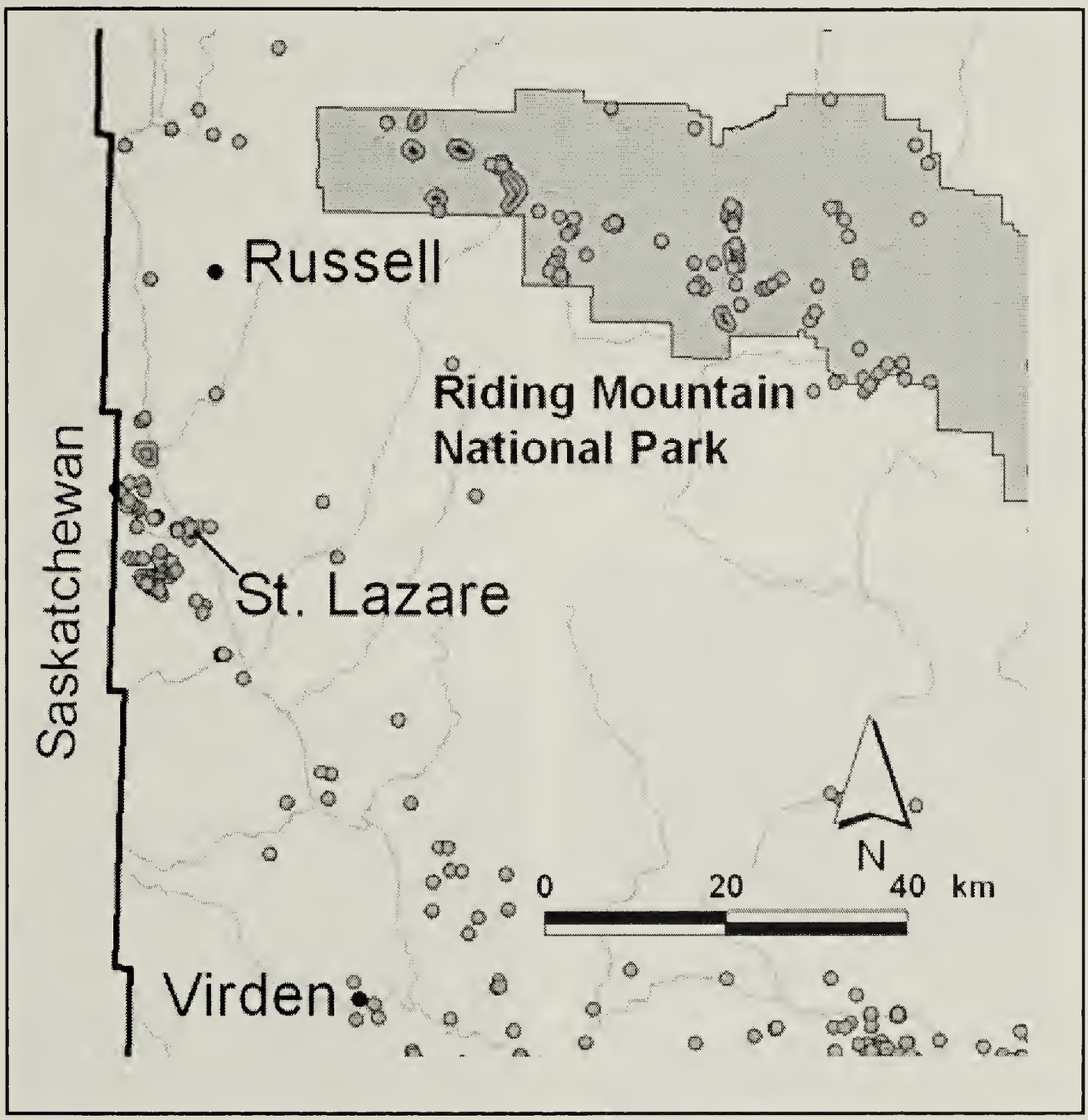

Figure 5. Provincially rare and uncommon species occurrences (dark circles and polygons) in west-central Manitoba, as recorded in the Manitoba Conservation Data Centre database. Occurrences are concentrated in the St. Lazare area.

Surveyed areas of the Qu'Appelle River Valley's south-facing slope appear to be only

lightly grazed and exhibit little evidence of disturbance. As some aspen encroachment was observed, consideration of the use of prescribed fire may be warranted.

Freshwater springs containing Roundleaf Monkey-flower were accessible to livestock and extensive trampling of spring vegetation was observed at one location. The installation of fencing and an off-site watering system would likely reduce the impact of livestock on spring communities.

The sandhills near the confluence of the Assiniboine and Qu'Appelle Rivers support a unique assemblage of provincially rare species. Portions of this area are used for sand extraction, and ATV tracks indicate that this area is also used for recreation. Further protection of this area, through conservation-minded management and/or conservation easements, would help ensure the long-term suitability of rare species habitat.

The concentration of rare and uncommon species in the St. Lazare area is indicative of a large, intact and connected landscape that is being managed in a manner that promotes the maintenance of biodiversity. The contribution of the area to Manitoba's overall biological diversity is significant, and warrants the reinforcement and expansion of current habitat stewardship activities.

Acknowledgements

This research was made possible through the support of the Habitat Stewardship Program, the Manitoba Special Conservation Fund, the Canadian Wildlife Service, Environment Canada, Manitoba Conservation, and the Manitoba Habitat Heritage Corporation. PFRA staff, including Blake Coutts, John Istace, and Wayne Lenfesty, provided access permission and valuable survey advice. Catherine Foster and Jason Greenall of the Manitoba CDC and Marilena Kowalchuk of Manitoba's Mixed Grass Prairie Inventory made valuable editorial suggestions, as did an anonymous reviewer.

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Folk names for Sprague's Pipit are "*Sky-jingler, skylark* (It sings on the wing)"
W. L. McAtee, *Folk names of Canadian Birds*, p. 56

NOTES AND LETTERS

HOME INVASION IN BIRDLAND

This story is about Cedar Waxwings and Least Flycatchers in our farmyard about 4 miles SW of Strathmore, Alberta. Around the middle of June 2004, we noticed a pair of waxwings building a nest in the hawthorn bush visible through the patio door and about 20 feet from our dining table. It soon became apparent that a pair of flycatchers was also watching the construction with interest.

By early July, we did not see much of the waxwings, but the flycatcher was in the waxwing nest area. On July 4, when I set my eight-foot step ladder up in a position to get a view of the nest, I saw that the nest was occupied by the flycatcher.

On July 7, when I looked again, the flycatcher flew off revealing two Cedar Waxwing eggs and two Least Flycatcher eggs. The flycatcher was definitely in charge (see Figure 1).

Figure 1. Least Flycatcher on nest built by Cedar Waxwings. Photograph taken on 7 July 2004. *Earl Brown*

On July 9, there was no change so I phoned Reid Barklay and explained the situation. He was quite surprised as he was unaware of any behaviour of this nature.

On July 12, Don Stiles of Calgary Field Naturalist Society bird study group visited and checked the nest. There were still two Cedar Waxwing eggs and four Least Flycatcher eggs. On July 13, I found one waxwing egg had hatched and there were still four flycatcher eggs. On July 14, the waxwing chick was gone and the other waxwing egg was opening. On July 16 there were no waxwing eggs or hatchlings. There were still four flycatcher eggs though (Figure 2). I believe that the flycatcher had disposed of the waxwing chicks and the shells too because they were not able to do this while the waxwing eggs were whole.

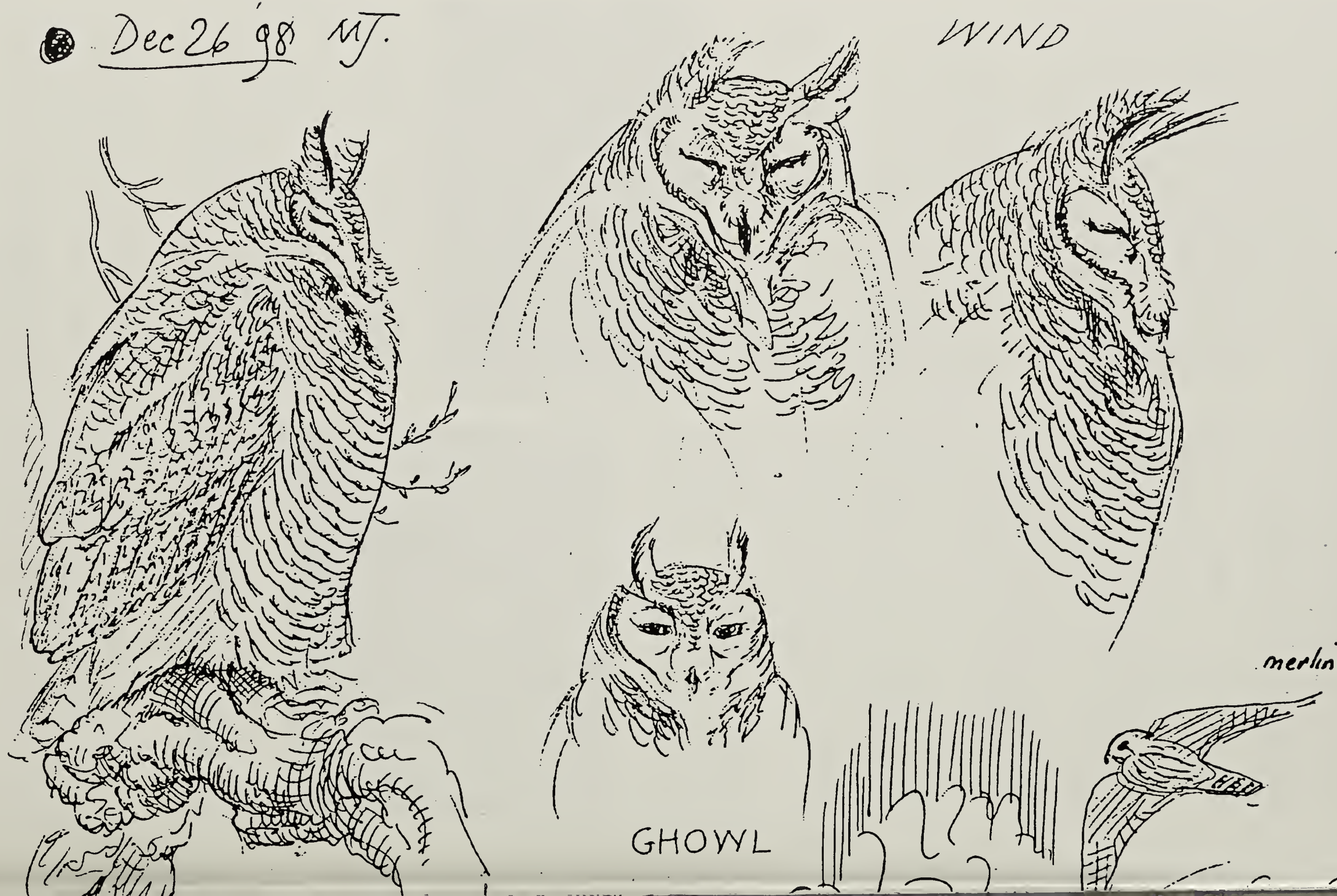
Then the flycatcher eggs started to hatch: one on July 17 and a second on July 18. But on July 19, there were no chicks in the nest, only one whole egg and part of a shell.

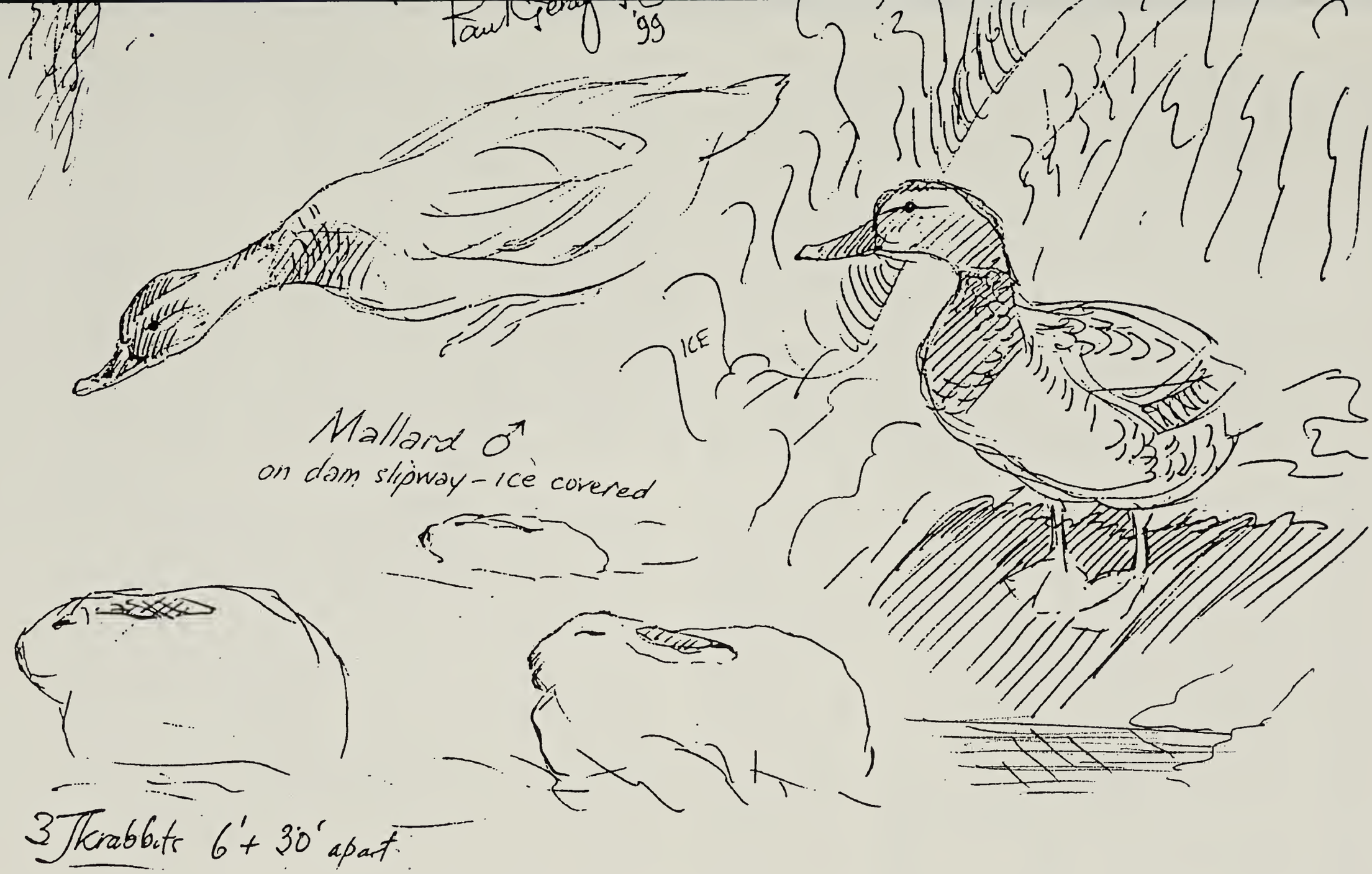
Figure 2. Four Least Flycatcher eggs on 16 July 2004. *Earl Brown*

I don't know what happened but I had recently seen a shrike in the yard about 100 yards from the house. Another possibility may be that a crow or magpie took the young birds. I would like to hear from anyone who may wish to comment on this happening.

Regarding the note in the September 2004 issue, I would like to add that Cedar Waxwings eat our apple blossoms too.

- *Earl G. Brown*, Box 11, Site 6, RR 1, Strathmore, AB


Dec 26 '98 MJ.
WIND
GHOWL
merlin


Paul Geraghty '99
ICE
Mallard ♂
on dam slipway - ice covered
3 Jackrabbits 6' + 30' apart

OSPREY'S SECOND TRIP TO COSTA RICA

In 2001, a female Osprey of undetermined age was fitted with a solar-assisted satellite-radio transmitter at her nest near Rosthern, Saskatchewan.[1] This bird's migration route to and from wintering areas in Costa Rica was monitored through signals received daily via the transmitter and a map of the route was published in a previous article.[1] The Osprey, one of 87 North American Ospreys fitted with satellite radios (Mark Martell, pers. comm.) set several trip records: the fastest three-day trip (1785 km) and the longest stopover (four weeks) short of her wintering grounds.[1]

Since the transmitter is solar-assisted and has a potential life of two to five years, the transmitter was left on the bird for a second year to learn how consistent one osprey's travel may be in consecutive years. Figure 1 shows her migration route in 2002 - 2003.

In 2002, in comparison with 2001, the Osprey left the Saskatoon area two days later, deviated up to 300 km farther east through Oklahoma and Texas, and crossed into Mexico nine days later than it had the year before. It reached its first major stopping place in Chiapas, the most south-easterly state in Mexico, nine days later than in 2001, and stayed six weeks, extending its former record long stopover by another two weeks. Evidently the Angostura Reservoir is a favourable place for fishing. Not until November 19, 22 days later than the previous year, did she reach what we presume must be an equally attractive fishing site, the Tempisque River in Costa Rica. She remained there until March 24, in Canadian terms a "snowbird winter holiday" of over four months.

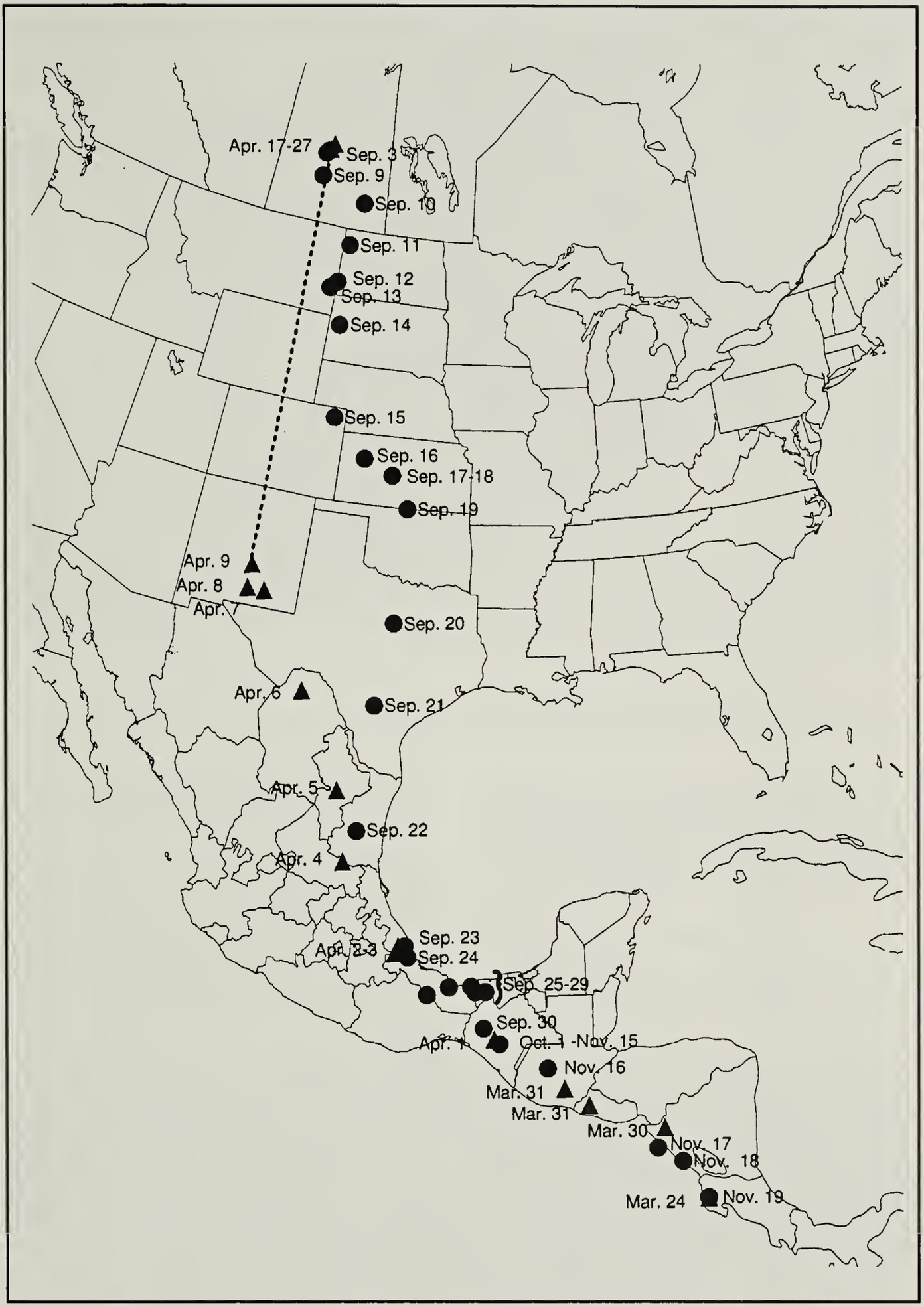
In the spring of 2003, the Osprey's northward migration began when she reached northern Nicaragua on March 30, at the same time as the previous year. She reached southeastern New Mexico on April 7, three days earlier than in 2002, and was back on her nesting pole at Rosthern on Good Friday, April 17, where the transmitter gave off its final feeble signal on April 27 and then stopped functioning, having provided no useable signals after April 9, as indicated by the dashed line in Figure 1. The Osprey was re-trapped on her nest pole on June 11, 2003 by Martin Gerard, and the radio transmitter removed. The transmitter, showing evidence of many dives into both fresh and salt water, was sent back to Microwave Telemetry in Maryland for refurbishing, and was placed on a nestling Turkey Vulture on August 5, 2004.

Acknowledgments

I thank the Saskatchewan Power Corporation, through Rae Ann Furber, and the Osprey/Turkey Vulture Tracking Fund of Nature Saskatchewan; each contributed half the cost of the transmitter (and its refurbishing), and the ARGOS satellite reports. Martin Gerard ably recaptured the Osprey. Mark Martell of St. Paul, Minnesota kindly handled the satellite reports for the southward journey until October 31, 2002. Francois Messier, at the University of Saskatchewan, took over after the Osprey Satellite operations in Minnesota ceased.

1. C. Stuart Houston and Mark Martell. 2002. Speedy Migration: Saskatchewan's first Osprey satellite transmitter. *Blue Jay* 60 (2): 74

- *C. Stuart Houston*, 863 University Drive, Saskatoon SK S7N 0J8



Adult female Osprey's second trip to Costa Rica and back. Triangles represent the locations on the northbound journey; circles those on the southbound journey; dashed line, interval when no radio signals were received. Map by K. Meeres.

Figure 1. Brood of ten tree swallows, 18 July 2001 *Shonna McLeod*

UNUSUALLY LARGE TREE SWALLOW BROOD

This report documents the apparent successful fledging of a brood of ten Tree Swallows in a nest box 50 km southwest of the Calgary, Alberta city limits in 2001.

Nest box (#18) was one of 56 along a 40 km stretch of secondary road #773. It was a top-opening plywood box with floor dimensions of 125 x 125 mm and no roof overhang. All other boxes on my nest box trail are larger, 140 x 140 mm, with 20 mm roof overhang. This east-facing box was nailed to a fencepost adjacent to a pasture containing long grasses, shrubs and dense stands of trees. A large cattail marsh was about 500 m to the southwest.

When I first visited the box in mid-morning on May 24, I recorded a few strands of grass in the bottom of the box signaling the start of nesting activity. On June 1, the nest had been completed and three Tree Swallow eggs were recorded. The weather was cold and rainy from June 3 to 6. Seven eggs were noted the third visit, June 6. On the fourth visit, June 11, eight eggs were found and an adult female Tree Swallow was banded. Ten eggs were noted on the fifth visit, June 17. Ten chicks, first recorded on July 2, were banded on July 10. One of the nestlings had a foot deformity, with three front toes permanently bent under. Figure 1, taken on July 18, shows the ten chicks of a similar size. The box was empty and all ten were assumed to have fledged by the final visit on July 24.

Current literature indicates that Tree Swallows are determinate layers with typical clutches ranging from 2-8 eggs, with averages of 4 to 7 reported.[1,2] Most large clutches are believed to be the result of egg dumping by one or more additional females. I conclude that this brood belonged to one female because, during my brief visits, only one female was noted at or near the box and only the banded female was seen after June 11.

An alternative interpretation is that two females were involved. One bird may have laid the first seven eggs found on June 6.

June 3-6 was a period of unusually cold and persistently rainy weather. Tree Swallows feed on flying insects that would have been scarce during this period and abandonment could have occurred due to starvation. Swallow eggs remain viable before incubation in cool weather. A second female, the one banded on June 11, may have arrived to lay the final three eggs and incubated the large clutch by itself.

Acknowledgements
I wish to acknowledge Grahame Booth, Doug Collister and Ross Dickson who encouraged me to document this unusual brood.

1. GILL, F.B. 1990. Ornithology. F.H. Freeman and Company, New York.

2. ROBERTSON, R.J., B.J., STUTCHBURY, and R.R. COHEN. 1992. Tree Swallow. *In* The Birds of North America, No 11 (A. Poole, P. Stettenheim, and F. Gill, Eds.) Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologists Union.

- *Shonna McLeod*, 615 Brookpark Drive SW, Calgary, AB T2W 2P8

DROUGHT-STRICKEN REDWING

The drought has been severe near Kindersley. There is a slough, a mere widening of a shallow, sinuous creek bed 5 km east of our home and 16 km north of Kindersley, that has been maintained by a small dam built by Ducks Unlimited. I have kept my canoe there for many summers, paddling up and down to photograph the birds. Good numbers of Red-winged and Yellow-headed blackbirds have nested there each year.

This water body was totally dry in 2001 and 2002, so the usual dense growth of cattails and bulrushes withered away to nothing. The Yellow-headed Blackbirds disappeared completely and the Redwings moved to nest in trees and shrubs around the farmsteads.

Following the best snowfall in years, the slough contained a nearly normal amount of water in the early spring of 2003. With hot weather, however, water levels fell quickly and there was no resurgence of the bulrushes and cattails. The Yellow-heads did not return. A pair of Redwings, lacking dead bulrushes and cattails from previous years, in apparent desperation used a twig and the lower rung of a barbed-wire fence as a substrate from which to hang their nest. A weed stalk, possibly Kochia (*Kochia scoparia*) lying across the barbed wire appears to partly support the nest (Figure 1).

- *Jean Harris*, Box 7, Kindersley, SK S0L 1S0

Figure 1. Due to lack of old cattails, this Red-wing used the wire fence and a weed stalk caught in the wire. No rain, no water, no cattails. ***Jean Harris.***

COVENS OF TURKEY VULTURES

In the summer of 2001, 12 Turkey Vultures roosted for the entire summer in Cottonwood trees on the north bank of the South Saskatchewan River across the river from the western edge of downtown Medicine Hat. The roost was about 1 km east of our condo and was along a path that is my main bird-watching route. The birds would usually leave the roost in mid-morning, sometimes after sunning themselves on the nearby river bank, and would return to roost at night. A few characteristic two-tone primary feathers accumulated at the base of the cottonwood trees. As Turkey Vultures do not breed for a few years, the birds were assumed to be non-breeding young. Starting in late July of this summer, up to eight vultures were roosting in the same general area. People living directly across from the river from the roost had numerous sightings of the vultures.

On September 14, 2004, Al Smith of the Canadian Wildlife Service and I were visiting with Ross Dickson during his hawk migration watch at Last Mountain Regional Park in Saskatchewan. The watch is basically similar to Frank Switzer's May 'sit' in Wascana Park in Regina, except that instead of Frank's one-day sit, Ross does it for six weeks. Truly a work of dedication. Suddenly a flock of six Turkey Vultures flew over us with two more in about five minutes and another two after an additional five minutes. All the birds were drifting with the wind that was blowing from the southwest. Several birds had red heads indicating their adult status. None of the birds had green and white wing tags which would have indicated that they had been banded in the C. S. Houston vulture-banding project. The vultures were the first seen by Ross in his current project and Al Smith, in his many years of banding at Last Mountain Regional Park, had never encountered one there.

James L. W. McKay, 1135 - 3rd Street N.W., Medicine Hat, AB T1A 7Y4

Turkey Vulture ***R. E. Gehlert***

LATE FLIGHT OF WHOOPING CRANES AND OTHER OBSERVATIONS FROM THE BIRCH HILLS AREA OF SASKATCHEWAN

On 1 November 2004, I received a phone call from Peter Jensen of Birch Hills who informed me about three Whooping Cranes he had seen just west of Muskiki Lake located ten kilometers south of Cudworth. They were near Highway #2 but when Peter and his wife, Shirley, stopped the truck for a better look, two of the birds became agitated and began hopping into the air and flapping their wings in an abbreviated imitation of their spring mating ritual. The other bird, which appeared to be somewhat smaller and of an off-white color with some suggestion of rusty coloring on its breast and neck, seemed reluctant about reacting to any possible danger and continued foraging in the stubble. However, after a few minutes, all three birds took off and flew towards the large alkaline lake. In flight the three birds showed very little difference in size or coloring.

Flying slowly and with no apparent sense of direction a meter or so above the surface, the three birds seemed to have intentions of landing in the lake before finally gaining altitude and flying south toward some distant stubble fields. Since the sighting was made on the last day of October, Peter commented that he's never seen whoopers this late in the season. We speculated that maybe they were late nesters and that the smaller bird, a juvenile, may have needed more time to 'find its wings'.

In conjunction with this, Peter also commented about hunting deer northeast of Prince Albert near Shipman when, in fairly dense bush, he and his party flushed several lone greyish Ross's Geese who flew away with no appearance of physical injury. He speculated that maybe these were young birds that had become exhausted and landed wherever they happened to be until they were rested enough to continue their journey.

Peter also remarked on the numbers of Bald Eagles that passed through his farm this year. Another bird watcher, Otto Opseth of the Hagen district, told me that in mid-October there were as many as fifteen eagles hanging around Jumping Lake, nine miles south of Birch Hills. Since that's a popular hunting spot, it's possible that the eagles were attracted to the bodies of wounded waterfowl that died after gliding into the lake and then floated to shore.

Finally, on a personal note, on the way back from Saskatoon on October 23, my wife, Marg, and I saw Rough-legged Hawks all along Highway #41. It was amazing. They were everywhere, some roosting on snags or fence posts but most soaring or flying. It was as if they had all decided that this was 'the day' for traveling. However, we'd just been through several blustery days with snow and freezing rain and the change to more seasonable weather may simply have allowed them to finally find more favorable flying conditions and a good tail wind.

- *Maurice Mareschal*, Box 301, Birch Hills, SK S0J0G0
E-mail: <m.mareschal@sasktel.net>

[In mid-November, this letter appeared in modified form in Prince Albert's *Rural Roots* edited by Ruth Griffiths.]

"Root touched root across this empire. The harsh edged leaves locked fingers, and the thoughtless west wind bore the pollen to the feathery purple stigmas of the husk-cupped flowers."

- Donald Culross Peattie, *A Prairie Grove*, p.11

DISCARDED DRINK CONTAINERS SAMPLE SMALL MAMMALS

During the mid-1970's while studying small mammals in central Alberta, I often noted empty drink containers, some glass and some aluminum with pull-tab openings, thrown from passing vehicles into the ditch. I knew that these containers acted as traps for some insects, and in the course of my study I discovered that they also captured small mammals, particularly the shrews. If the container happened to lie with its mouth and neck inclined upward, then the mammal entering it would be unable to climb up the smooth interior and escape. These captures scarcely qualify as a "field method" but I found that, both in the Pigeon Lake region and elsewhere, they sometimes provided supplementary information on the species present. The remains were usually decomposed and identifiable only by skull or dental characteristics. On occasion a bottle contained the remains of more than one individual.

During more than two decades of field studies throughout south and central Alberta, I recorded seven species of small mammals in discarded bottles and cans. They were Masked Shrew, *Sorex cinereus*; Arctic Shrew, *Sorex arcticus*; Dusky Shrew, *Sorex monticolus*; Meadow Vole, *Microtus pennsylvanicus*; Red-backed Vole, *Clethrionomys gapperi*; Deer Mouse, *Peromyscus maniculatus* and Meadow Jumping Mouse, *Zapus hudsonius*. The most frequently-encountered species was the Masked Shrew. Mice and voles were almost always immatures, small enough to enter the narrow openings.

- *Jim R. Salt*, Email: <jrsalt@Telus.net>

A REQUEST FOR INFORMATION ON FRESHWATER WORMS

I wish to describe a natural history phenomenon I saw sixty-odd years ago in the summer of 1942 and have never seen since nor ever read any explanation of nor even any allusion to. In a road ditch, a rain-fed pool had an alluvial mud bank in it under some six inches of water. I forget how big the pool was, but if it was in a road ditch, it would have been at most a couple of feet wide, but likely several feet long. At any rate, one could stand or crouch on the road edge and see what was going on in the water.

Worm-like creatures some 4 - 5 cm long in visible length had their rear (?) ends embedded in the mud of the bottom. Their red-brown bodies were some 0.5 - 1.0 mm in diameter and were embellished with short legs (?) or cilia (?) about 1 mm long. Their bodies writhed ceaselessly from side to side in the sunlit water. I don't recall any visible head. The cilia or legs extended all the way up from the surface of the mud bank to the free tip of the beastie. I can't remember whether the cilia or legs were on one side of the body or all around its circumference; the creatures may have been writhing too steadily for one to decide between these choices, or even to think about placement of the cilia.

The location was at the east edge of N.E. 1/4 4-13-12 W. 2nd, seven miles north of Osage, SK. The earthen road ran north and south within a shallow ravine also draining north to south. Thus there would be enough gradient upstream in the road ditch for rainwater to erode the ditch upstream and deposit a mud bank in any pool produced by levelling out of gradient. I have a vague recollection of seeing this phenomenon on more than one sunny day in the period mid-June to mid-July.

One reads of marine worms extending from their burrows in a muddy bottom and wriggling about to catch small aquatic life-forms, but I've never read of any similar freshwater life-form.

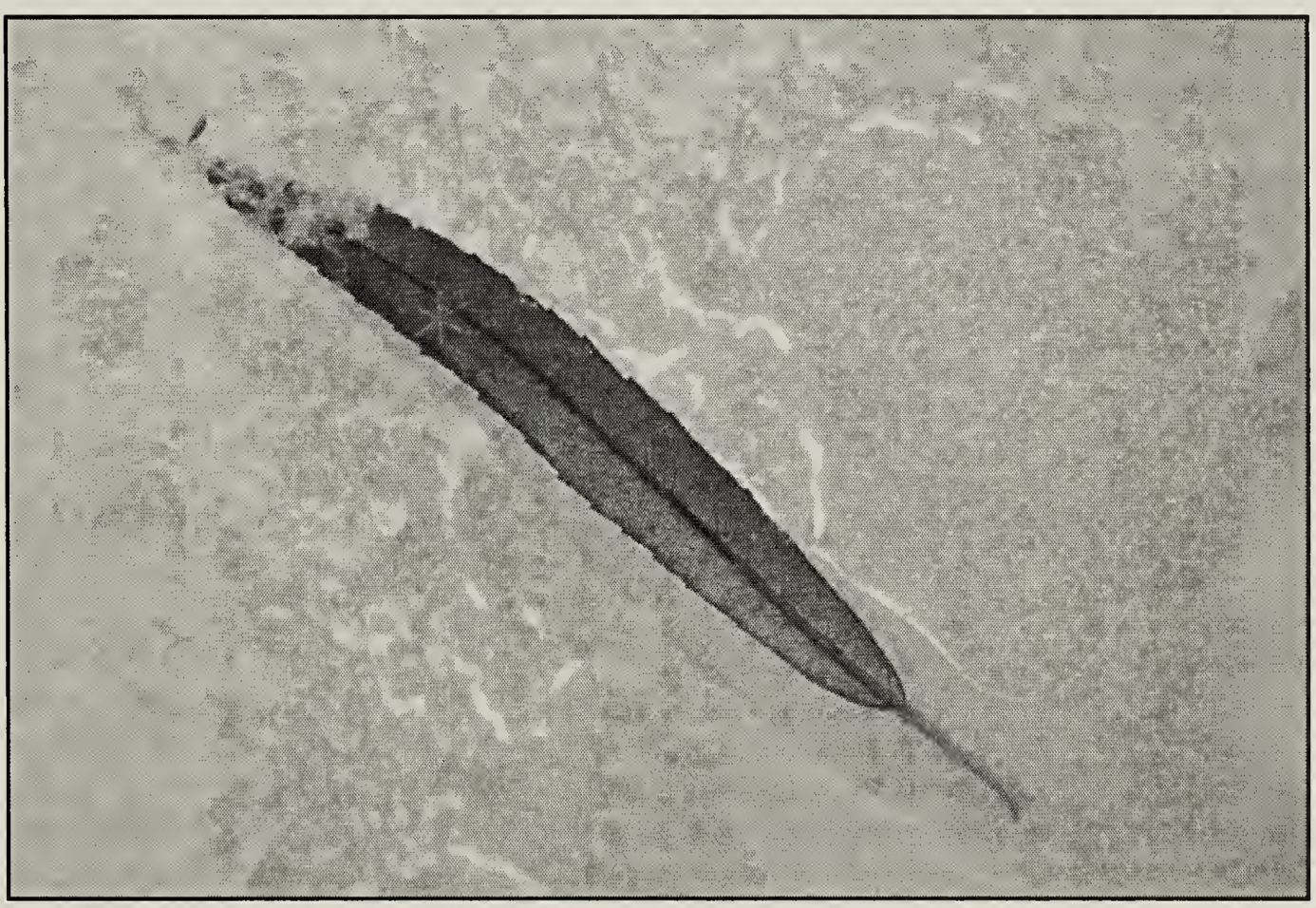
- *John Hudson*, 103 Richmond Crescent, Saskatoon, SK S7K 1A9

POETRY

WIND SHOWER

Once again December winds
have scattered willow leaves
across the clean white snow...
Torn from our neighbors' tree
long after we've put away rakes
their dark sinuous shapes
lie like swimming smelt
schooling down the shoveled path
or trapped in our dog's plunge holes...
artful forms overlooked when fallen
and blown on autumn's lawn;
now sprinkled on top the snow
these double-pointed leaves
provide unexpected excitement.

- Bob Nero



Willow leaf in ice ***Anna Leighton***

NATURE LIBRARY

BIRDLIFE OF THE CHURCHILL REGION: STATUS, HISTORY, BIOLOGY.

JOSEPH R. JEHL, Jr. 2004. Trafford Publishing, Victoria, BC. 152 pp., soft cover. ISBN: 1-4120-3107-9. Available from Churchill Northern Studies Centre, Churchill MB for $24.95 plus shipping and handling.

The avifauna of the Churchill, Manitoba region has been studied longer and in more depth than that of almost any other area in North America. Following the construction of the railway to the town in the 1920s and the subsequent opening of the port in the early 1930s, professional ornithologists have flocked to the area to study its bird life. There is currently no other place in North America, and possibly the world, where the sub-arctic can be visited with such ease and in such comfort, at a relatively low cost.

In 1970 Jehl and Smith detailed what was known by then about the local birds in *Birds of the Churchill Region, Manitoba.* Much has changed since. Research has flourished, with on-going studies of geese, shorebirds, longspurs, and other species. Annual visits by birding tour groups and individuals, particularly since the 1970s, have led to numerous discoveries of rarities. Some breeding species common half a century ago, such as Semipalmated Sandpiper and Lapland Longspur, have all but disappeared, while others, such as Ross's Gull and Black-backed Woodpecker have become established in the last few decades.

Now Joseph Jehl Jr. has documented all these changes in *Birdlife of the Churchill Region: Status, History, Biology.* A handsome Hudsonian Godwit—one of Churchill's signature species—balancing atop a tamarack, graces the front cover. The chapters follow a fairly standard order: Foreword, A brief ornithological history, The setting, Changes in the environment, and The avifauna, followed by The birds of Churchill, an annotated species list, which makes up the bulk of the text. The individual species' accounts range in size from a few lines for some accidental species to four pages for Snow Goose; they include information from as recently as the summer of 2004. In general, larger species, such as geese, shorebirds and gulls, receive more extensive write-ups than songbirds, reflecting which groups have been studied most.

Scattered through the introductory chapters are a number of black-and-white photographs, maps and graphs, while a signature of eight pages shows 24 species in the middle of the book. The colour reproduction of these otherwise excellent photographs could be improved.

Of particular charm and interest are numerous side-bars, written by Jehl and other scientists, highlighting research on certain species. Anyone interested in learning about the damage Snow Geese have wreaked at their La Pérouse Bay colony, or the sex life of Smith's Longspurs, will find a wealth of information here. Several accounts are introduced by a brief quote from Samuel Hearne's 1795 treatise on Churchill's birds, another nice touch.

The bibliography, listing some 300 references, is followed by two appendices, which detail Christmas Bird Count results and clutch sizes of Churchill birds.

There appear to be few, if any, factual or typographical errors; none is major.

For anyone who has visited the area, this book will bring back fond memories. For those who have yet to go, *Birdlife of the Churchill Region* should provide ample stimulus to do so.

Finally, it should be mentioned that all proceeds will be used in support of bird research. At $24.95 this book is a steal; make it part of your bird book collection. Better still, bring it along when you come and visit this birders' paradise.

Reviewed by Rudolf Koes, 135 Rossmere Crescent, Winnipeg, MB R2K 0G1

PRAIRIE: A NATURAL HISTORY

CANDACE SAVAGE. 2004. Greystone Books and David Suzuki Foundation, Vancouver. 308 pages, 119 colour photographs, 116 black and white drawings, 19 maps, 26.0 cm by 19.7 cm. ISBN: 1-55054-985-5. Hardcover. $60.00 Can.

This impressive book by noted Saskatchewan author Candace Savage neatly describes many aspects of the natural history of the Great Plains from Canada to New Mexico and Texas. The information in this book was meticulously researched and reviewed by an advisory panel of Great Plains experts from Canada and the United States. Colour photographs primarily by James Page, but also by Arthur Savage, including several outstanding bird close-ups (the photo of Burrowing Owls is my favourite), and line drawings by Joan Williams amply illustrate the 300 pages of readable, informative text. Even before you open the book, the front cover photograph, a captivating portrait of a prairie landscape by Branimir Gjetvaj, foretells its beauty. Maps are an important part of a book that covers a region as large as the Great Plains of North America and they are given due attention. Prepared by Canadian Plains Research Centre, the size and layout of each map clearly and attractively displays the information inherent in each.

The book is divided into nine chapters. After the introductory chapter, 'Where Is Here?', chapters 2 through 8 cover geology of the prairie region, grasses, soil, animals that live in rangeland, water, woodlands, farming and the future. Chapter 2, 'Digging into the Past', describes the fascinating geological and paleontological history of the Great Plains. 'The Geography of Grass,' Chapter 3, explains how evolutionary adaptations, climate, grazing and fire allow grasses to dominate most of the Great Plains and determine the regional differences in plant communities. The fourth chapter, 'Secrets of the Soil,' examines the formation and types of soils and their biota, the role of nitrogen fixing bacteria, and the impacts of burrowing mammals and exotic invasive earthworms on the soil. 'Home on the range,' Chapter 5, discusses the impact of herbivores and predators and the role of natural disturbance and pollination to healthy, patchy grasslands. 'Water of Life,' looks at the importance of marshes, rivers, and lakes to the biodiversity of the Great Plains, 'the duck factory,' and how marsh drainage and river damming and channelization affect aquatic and riparian ecosystems. In Chapter 7, 'Prairie Woodlands,' topics such as planting of shelterbelts and the role of fire suppression in promoting woody vegetation are covered. 'The Nature of Farming,' Chapter 8, discusses how farming has affected the Great Plains ecosystem in the last 100 years. The final chapter, 'Long-Range Forecast,' deals with man-made stresses and climate change on the Great Plains ecosystems, the resilience of these ecosystems and the positive actions of many landowners.

There are two appendices: a list of scientific names of species mentioned in the book and a list of the vertebrates endemic to the Great Plains. An extensive but selective bibliography and an index are included. Although the author minimized technical jargon as much as possible, a glossary would have been helpful to readers unfamiliar with the technical terms used in the book.

No single book on a subject as large as the Great Plains can cover all topics equally. Several topics that I feel didn't receive sufficient coverage are fish communities, natural island forests such as the Cypress Hills, First Nations and their traditional knowledge of the Great Plains, prominent expeditions and naturalists during 16th to 20th centuries and impacts of human demographic changes on the Great Plains.

Candace Savage is a wonderful writer who has lived her whole life in the prairie environment, observing details and learning the fundamentals. In this book she combines her love and appreciation of the prairies with a wealth of scientific knowledge. With her delightful and straightforward writing style, she takes us through her home landscape, introducing us to the small inhabitants ("waterbears, that waddle through the film of water around soil granules") and the largest structures, "the Earth's core—the yolk of the planetary egg". She also carefully examines the interface of nature and the human activities that the prairies support. The balanced view that the author brings to this topic reflects her long association with the prairie environment and its people.

I highly recommend this book to anyone interested in the Great Plains. Seldom do writing craftsmanship and respect for scientific fact come together to make such a readable book. *Prairie* is a pleasure to read cover to cover, one chapter at a time or in small pieces by just sampling the text boxes and illustrations. This book is truly a gift to all interested in the natural history of the prairies.

Reviewed by Robert Warnock, 3603 White Bay, Regina, SK S4S 7C9, warnockr@accesscomm.ca

Some of the 40 cormorants perched on the power lines just south of the weir in Saskatoon on 27 August 2004. ***Vera Giesbrecht***

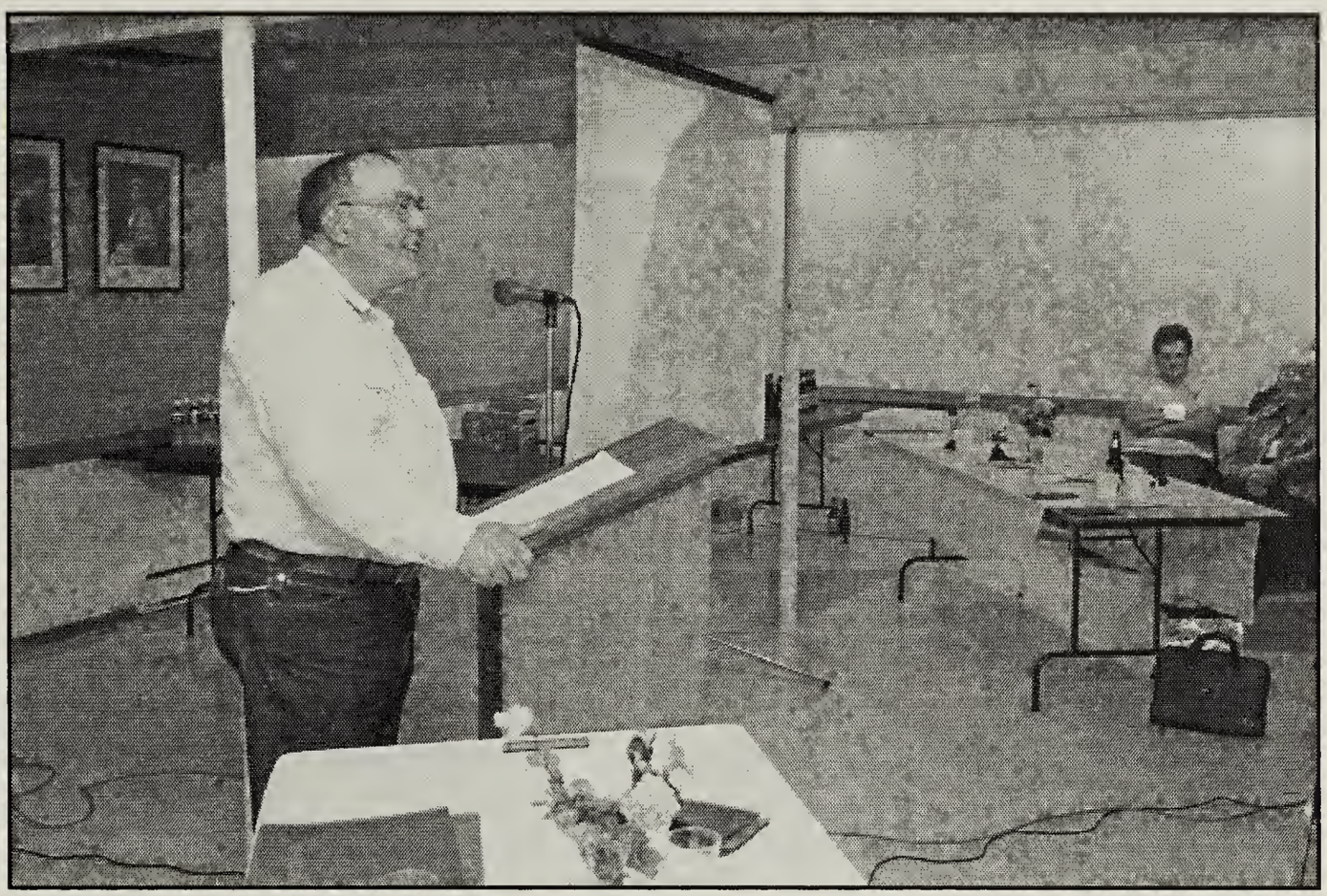


Figure 1. Conservation Director Lorne Scott was the featured speaker at the Fall Banquet. Lorne spoke about what we can do as naturalists to preserve dwindling habitat and species at risk. *Branimir Gjetvaj*

2004 Awards

Nature Saskatchewan enjoyed superb fall weather at its Fall Meet in the Saltcoats area September 24 – 26, 2004. The Annual Awards Banquet was held in the Bredenbury Community Hall on September 25th with an enthusiastic audience of over 100 people. The Annual Awards program recognizes the invaluable contributions of volunteers to the society and to conservation.

Cliff Shaw Award

This award is named for the second editor of Blue Jay, naturalist and writer Cliff Shaw. It is presented annually to recognize an outstanding contribution to Blue Jay in the past four issues. Special consideration is given to articles by new contributors. This year's recipient is **Todd J. Underwood** of Winnipeg, for several consistently well-written and interesting articles in recent Blue Jays. The third and latest, titled "Red Squirrel Predation on Warbling Vireo and Yellow Warbler Nests," appeared in the December 2003 issue.

Larry Morgotch Memorial Award

Initiated by the Yorkton Natural History Society in memory of former member Larry Morgotch, this award is presented to the member showing the best photographs at the annual competition held on the Friday evening of the Fall Meet. This year, the award was presented to **Gary Seib** of Regina for his fascinating presentation on snakes.

Fellows Award

Since 1987, the Society has designated members who have made a long and outstanding contribution as "Fellows of the Saskatchewan Natural History Society." To

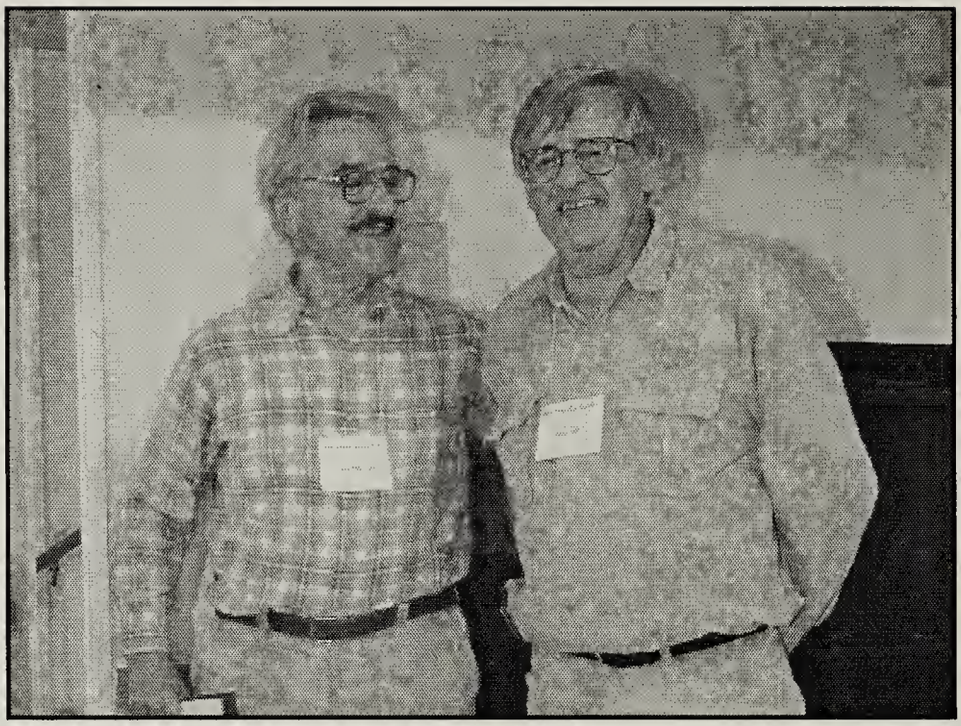


Figure 2. Nature Sask President Attila Chanady presents 2004 Larry Morgotch Memorial Award for best Members Slides to Gary Seib for his presentation on snakes.
Branimir Gjetvaj

date, 52 Nature Saskatchewan members have been awarded with this distinction. This year the Board of Directors of the Society recognized four more members with this award: **Kathleen Donauer** of Regina, **Ardythe McMaster** of Treherne, MB **Carol Scott** of Winnipeg, and **Michele Williamson**, the current Past-President of Nature Saskatchewan.

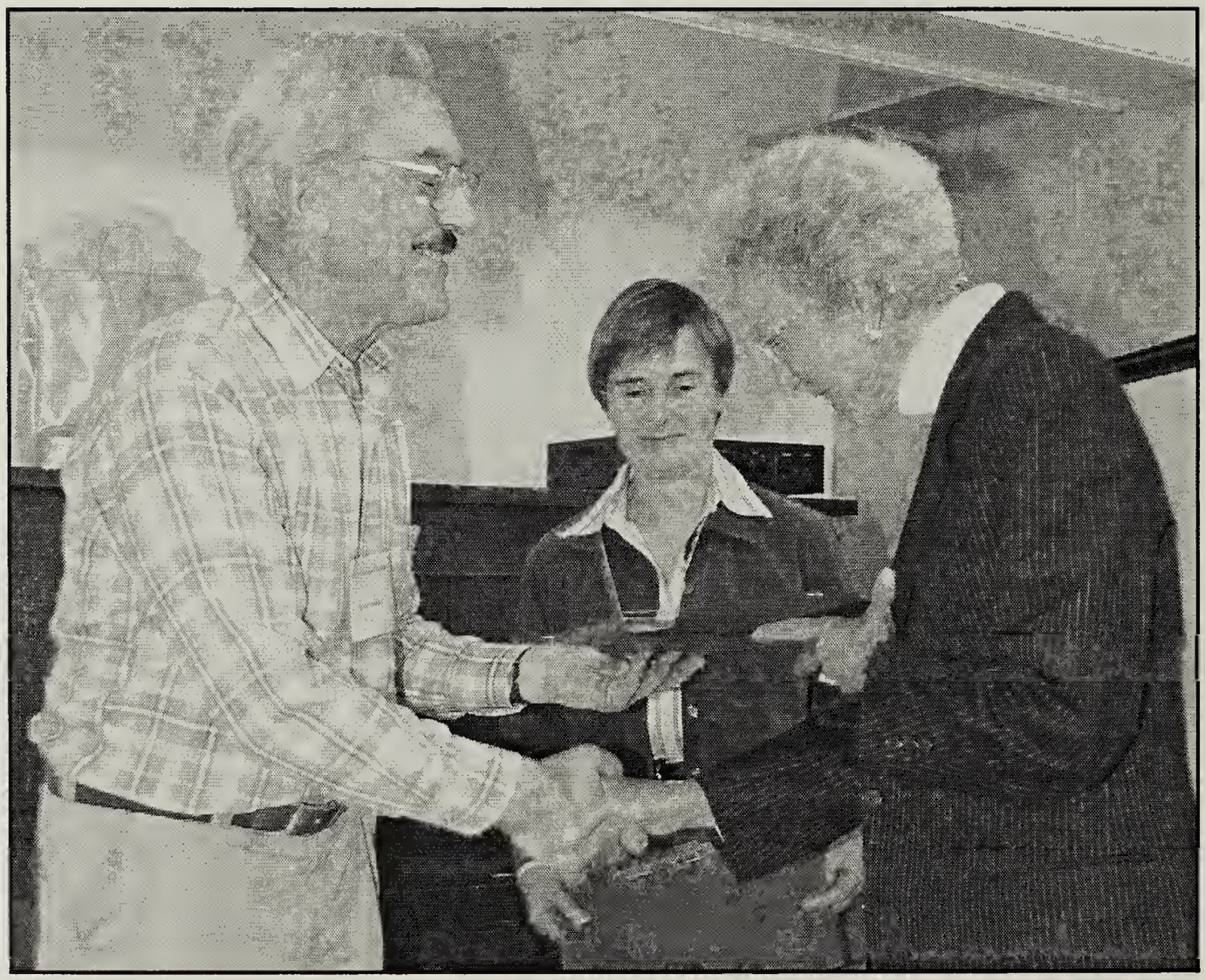


Figure 3. Nature Sask President Attila Chanady presents 2004 Fellows Awards to Carol Scott (centre) and Ardythe McMaster (right), both former board members from Manitoba.
Branimir Gjetvaj

Long-term Service Award

This is only the second year Nature Saskatchewan has presented the "Long-term Service Award". This award recognizes an individual who has made an ongoing contribution to the society, through their volunteerism and their energy. This year there are two recipients: **Melanie Elliott** of Saskatoon and **Brian Irving** from Kelvington.

Volunteer of the Year Award

This award acknowledges individuals who have devoted significant time and energy to promoting the objectives of the Society. **Alex Rendek** of Hudson Bay is this year's recipient for his hard work on the Rendek Nature Sanctuary.

Conservation Award

Nature Saskatchewan's Conservation Award is presented each year to an individual whose total contribution to conservation is outstanding. The award may be presented for a specific project or conservation work over a period of years. **Margaret Skeel** received the award this year for her many years of dedicated service to conservation in Saskatchewan as an individual and as the program officer for Nature Saskatchewan. (Figure 4)

This year there were no applications for the **Natural History Scholarship** so no award was presented.

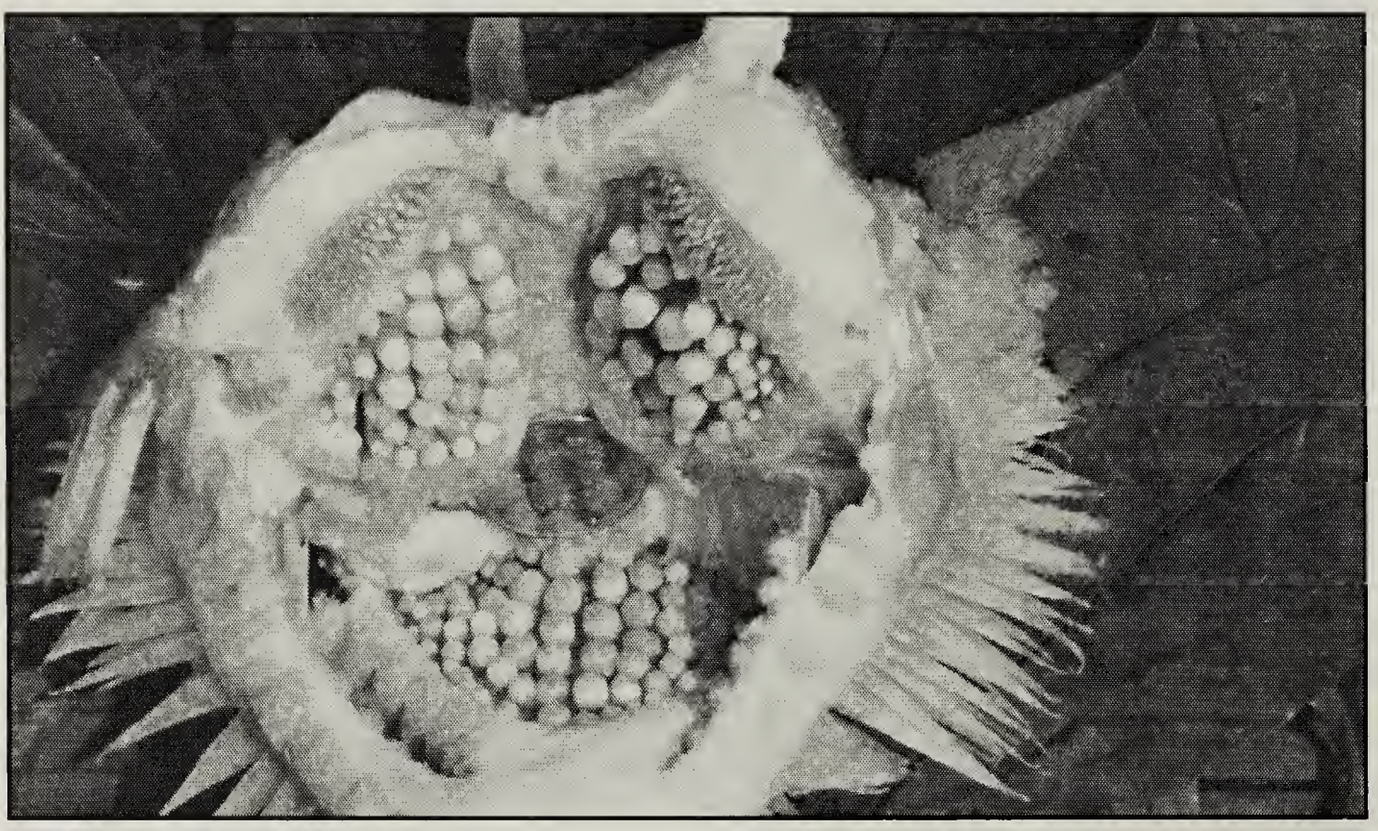
- *Paul Wilson*, Manager of Member Services & Outreach, Nature Saskatchewan, Regina

Figure 4. Nature Sask Conservation Director Lorne Scott presents the 2004 Conservation Award to our General Manager, Margaret Skeel. ***Branimir Gjetvaj***

MYSTERY PHOTO

DECEMBER 2004 MYSTERY PHOTO

This photo, looking into the mouth of a freshwater fish, shows a specialized apparatus that allows the animal to consume somewhat unique food items. Can you name the kind of fish and what these food items are? This fish occurs from Hudson Bay to Guatemala, with a disjunct population in southwest Saskatchewan. A dime, placed over the esophageal opening, gives an idea of scale.



ANSWER TO JUNE MYSTERY PHOTO

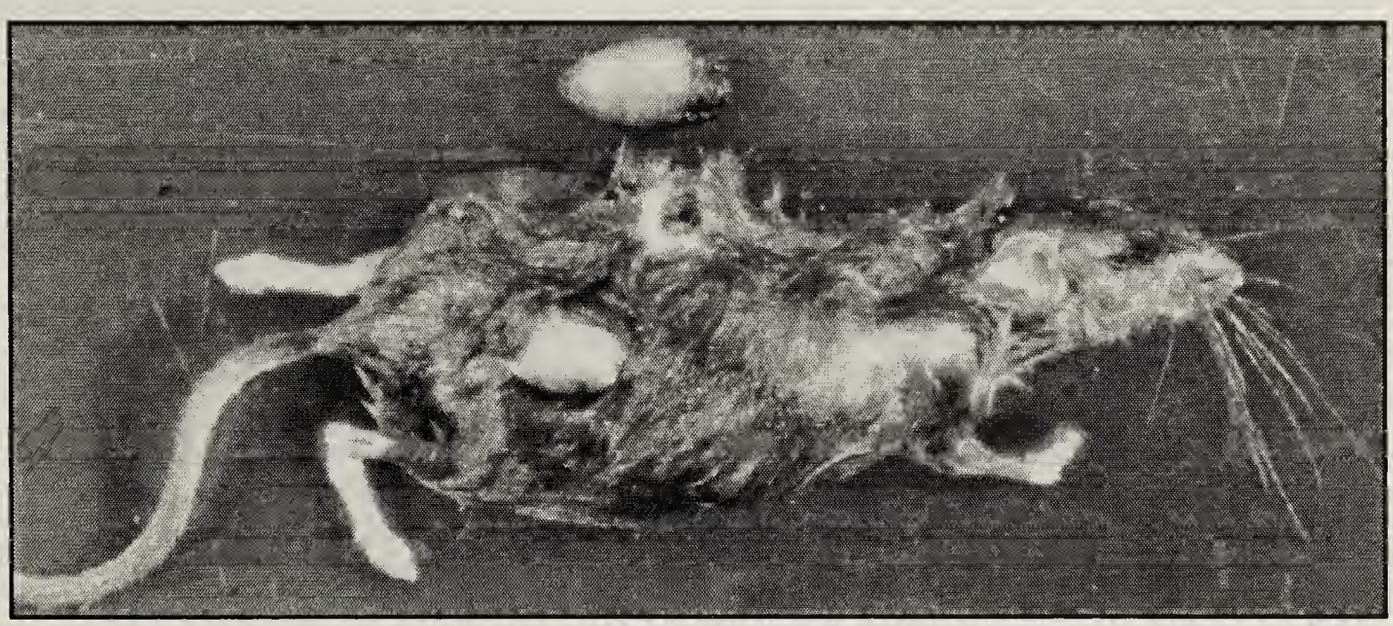
The creature beside the mouse, and the other one still under its skin, is the fully-grown larva of a Robust Bot Fly or cuterebrid (Genus *Cuterebra*). Cuterebrids are large, robust, and often beautifully coloured flies, the larvae of which live and develop only as internal parasites of rodents and rabbits. Few people ever see the adult flies in the field, although the males of many species form aggregations during the summer mating season. Mated females scatter their eggs on vegetation in areas frequented by their small mammal hosts, up to a dozen or more eggs at a time, and up to 1,000-3,000 eggs in total. The tiny larvae hatch from the eggs in response to small increases in temperature, often a signal of close proximity of a warm-blooded host. The larvae hatch rapidly and, being sticky, they will adhere to the hair of their hosts on contact. If they miss the initial contact, these larvae may survive on the vegetation for several days, and they stand upright and thrash about when a potential host is detected nearby. Once they are on the skin of a host animal, they will move about until they encounter a moist area on the body, often around the mouth, nostrils, eyes, anus or genital opening. What happens next is not precisely known for many species. In one species, at least, these tiny larvae make their way to the windpipe, penetrate its wall and enter the chest cavity, penetrate the diaphragm and move through the abdominal cavity, and finally penetrate through the abdominal wall to take up residence just beneath the skin of the lower abdomen, as seen (bulge) in the deer mouse in the photograph. Up to this

point, the larvae have grown very little, but now they pierce the skin to form a breathing hole, and their growth rate accelerates phenomenally. When they have completed their larval development, they enlarge the breathing hole, squeeze though, drop to the ground and pupate in the soil. Most of the species on the Canadian prairies probably over-winter in the pupal stage and emerge as adults the following summer. These fly larvae cause surprising little damage to their mammal hosts, although heavily infected meadow voles in the laboratory have died after the larvae they carried have emerged. The greatest impact of these parasitic larvae may be to increase the probability of predation for their host, since their size and location may impeded the hosts' ability to flee. There are records of cuterebrid larvae growing beneath the skin of abnormal host species, including humans very occasionally. In Manitoba, cats appear to be the abnormal host most commonly infected.

- *Terry Galloway*, Department of Entomology, University of Manitoba, Winnipeg

Several Blue Jay readers wrote in with answers to this mystery photo. William J. Walley hit the nail on the head with his answer: "Regarding the Mystery Photo in the September 2004 issue of Blue Jay, I think the 'guests' are larvae-pupa (grubs or maggots) of the Robust Bot Fly, Cuterebridae or cuterebrids, order Diptera, parasitic on rodents."

Many thanks to readers who sent answers and to Terry Galloway for providing the detailed life history of this insect. - Editors.



"If I would see the wind, I go out after a windy snowstorm. There is the track of the wind in the drifted snow, the way it passed around even a weed stalk or fence post, the way it went over a hummock or a rock. Snow drifts are frozen motion of that most fluid of the elements, the wind. Even the curl at the lip of a snowdrift is the curl of the wind as it was sucked back by the drift."

Hal Borland, *Beyond Your Doorstep*. p. 355.

2004 SUBJECT INDEX

2004 ILLUSTRATION INDEX

All illustrations are photographs unless otherwise indicated

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